January 5, 2012
REPORT 12-233

Strategic Energy Management Market Assessment Study: Food Processors and Beverage Manufacturers

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TABLE OF CONTENTS

Executive Summary

Introduction

For the current funding cycle (2010 to 2014), NEEA's Industrial Sector will target new markets in the Northwest region. NEEA engaged Market Strategies to conduct a research study to establish a baseline of strategic energy management (SEM) practices in the new markets of interest in order to compare against future years to determine the degree of market diffusion of strategic energy management practices in the target markets due to NEEA's efforts.

The primary objective of this research engagement is to determine the percentage of industrial companies within eight specified sectors in the Northwest that have implemented all or some of the elements of SEM.

This report details findings from the Food Processing and Beverage Manufacturing sectors. Market Strategies has provided separate reports detailing findings for the other industrial sectors included in this project – Small Manufacturing Businesses (with fewer than 100 employees), Medium Manufacturing Businesses (with 100 to 249 employees), Metals Manufacturers, Dairies, Irrigators (agricultural operations), and Nurseries.

Key Findings

Food processing facilities that are part of larger companies (250 or more employees in the Northwest) engage in SEM practices more than their smaller food processing and beverage manufacturing counterparts. These larger food processors were one of the sectors targeted by NEEA's industrial initiatives during the previous funding cycle. Among the smaller companies within these sectors, some aspects of SEM are gaining traction; however, full implementation of SEM is at zero percent among this segment at this time.

Familiarity with Strategic Energy Management

Familiarity with energy efficient operating practices is universal among food processors (98%) and beverage manufacturers (100 percent). Just one half (49 percent) of food processing facility and six in ten (59 percent) beverage manufacturing energy decision-makers are familiar with SEM. Familiarity with SEM among large food processors (79 percent) is nearly double that of smaller food processors (40 percent), reflecting the focus of SEM efforts on larger organizations to date.

Implementation of Strategic Energy Management Practices

The minimum requirement for a facility to be defined as implementing SEM includes demonstrating that all three criteria below are being met:

1. The company has set a goal related to energy;
2. The company's top leadership has dedicated resources (e.g., staff, budget, training, capital improvements) to achieve the goal.

3. Staff responsible for the goal regularly reports to top leadership on progress toward the goal.

Currently, eight percent of all food processing facilities and four percent of beverage manufacturing facilities in the northwest meet all three SEM criteria.

Among food processing facilities that are part of companies with 250 or more employees, 33 percent meet the SEM criteria, versus none meeting these criteria among the smaller food processing facilities. Penetration of SEM practices among the large food processors surveyed for this project is in line with the 36 percent market penetration for this sector reported in 2011's Market Progress Evaluation Report (MPER) #6[1] for the Industrial Initiative.

A major barrier to meeting SEM criteria among smaller companies appears to be dedicating resources to energy reduction as defined by NEEA. Only one percent of smaller company food processing facilities and four percent of beverage manufacturing facilities report having the three elements of "dedicating resources to energy reduction" in place, which include having a dedicated energy champion, providing staff training in energy reduction, *and* regularly reporting progress toward energy reduction goals to top management. Many (10 to 38 percent) are doing at least *one* of these things, just not all of them.

While most (70 to 78 percent) facilities track their energy usage, only one-quarter (25 percent) of smaller food processing facilities and one-fifth (19 percent) of beverage manufacturers have energy reduction goals in place. Compared with beverage manufacturers (4 percent), a slightly higher proportion of smaller food processors (13 percent) indicate they will "definitely" set energy reduction goals within the next two years.

Nearly all (96 percent) large food processing company facilities report installing energy efficiency equipment, while six in ten (59 percent) smaller food processors and two-thirds (67 percent) of beverage manufacturers report this. Among facilities that have acquired energy efficient equipment, nearly three-quarters (74 percent) of large food processors report quantifying the savings from these projects, versus fewer than three in ten smaller food processors (27 percent) and beverage manufacturers (28 percent).

Among food processing and beverage manufacturing facilities with goals in place, the vast majority of facilities track their energy usage (90 percent and 100 percent, respectively) and report this to top management (95 percent and 100 percent).

NEEA's Role in SEM Implementation

Fourteen percent of large food processing facility energy decision-makers credit NEEA as the source through which they first learned of SEM. No energy decision-makers at smaller food processors or beverage manufacturers cite NEEA in this capacity.

Familiarity with energy management systems offered through NEEA, Bonneville Power Administration (BPA) and Energy Trust of Oregon (ETO) is much higher among food processors with 250 or more employees (54 to 80 percent for each of the systems) versus

[1] The Cadmus Group Inc. / Energy Services. *NEEA market Progress Evaluation Report #6: Evaluation of NEEA's Industrial Initiative, 2011, p.44.*

smaller food processors (13 to 35 percent) and beverage manufacturers (15 to 30 percent). Three-quarters (75 percent) of large food processor respondents are familiar with Continuous Energy Improvement (CEI) through NEEA, versus just 13 percent of smaller food processor respondents and 15 percent of beverage manufacturers who report this. Among the smaller food processors in Oregon, familiarity with Industrial Energy Improvement (IEI) through ETO (35 percent) is notably higher than with CEI (13 percent) and BPA's Energy Smart Industrial (17 percent), indicating that ETO may be addressing the smaller food processor segment with SEM offerings.

Among the eight in ten (79 percent) large food processors that have energy reduction goals in place, more than one-quarter (26 percent) cite NEEA as an organization that influenced their decision to set energy reduction goals, the highest level of response for any single entity for this question. One-fifth (21 percent) cite the Northwest Food Processors Association (NWFPA) and the U.S. Department of Energy as influencers, while 11 percent name BPA, and five percent name ETO. Among smaller food processors, utilities are most frequently cited (37 percent) as providing influence to set energy reduction goals.

Recommendations

While NEEA's and other organizations' efforts with large (250 or more employees) food processors are evident in the extent of familiarity and implementation of SEM, there is significant opportunity to expand the implementation of SEM practices among smaller food processors and beverage manufacturers in the region.

Awareness and interest in energy efficiency practices and cost savings is high among smaller organizations, however the knowledge and internal resources needed to systematically manage energy use and optimize operations, equipment and external resources is limited.

Profitability and cost control (19 percent and 17 percent respectively) are the two most often mentioned concerns for smaller food processing manufacturers. NEEA should work with its partners to demonstrate the beneficial outcomes of a systematic approach to energy management in terms of cost savings and enhanced profitability beyond that of less managed attempts to reduce energy usage and costs.

Most of these organizations may lack the resources and bandwidth to focus on the establishment of an SEM system. Therefore, NEEA and its partners should also provide significant direction and support regarding how to implement the various elements of SEM within a smaller operation, most of which are very small in comparison to the large facilities that have been the focus of the past several years.

Also, among smaller food processing and beverage manufacturing companies, there may be a need to recalibrate or redefine some SEM criteria to better fit their organizational and operational constraints. While energy reduction goal setting is a relatively straightforward concept, NEEA may need to define the "dedication of resources" to energy reduction in terms that are more feasible, or in a way that is a better fit for small organizations – at least in terms of how these criteria are measured when quantifying progress of SEM in the marketplace.

Introduction

The Northwest Energy Efficiency Alliance (NEEA) is a non-profit organization working to maximize energy efficiency in the Northwest. NEEA receives support from, and works in collaboration with the Bonneville Power Administration, Energy Trust of Oregon and more than 100 Northwest utilities on behalf of 12 million energy consumers. By accelerating market adoption of energy efficient products, services and practices, NEEA's initiatives assist the region in maximizing energy efficiency and meeting its energy efficiency goals.

During the previous funding cycle (2004 to 2009), NEEA focused on the food processing and pulp and paper sectors for its energy efficiency initiatives in the Industrial sector in the Northwest region, specifically, Idaho, Montana, Oregon and Washington.

For the current funding cycle (2010 to 2014), NEEA's Industrial Sector will target new markets beyond the food processing and pulp and paper markets in the Northwest region.

NEEA engaged Market Strategies to conduct a research study to establish a baseline of strategic energy management (SEM) practices in the new markets of interest in order to compare against future years to determine the degree of market diffusion of strategic energy management practices in the target markets due to NEEA's efforts.

The primary objective of this research engagement is to determine the percentage of industrial companies within eight specified sectors in the Northwest that have implemented all or some of the elements of SEM. These sectors include:

- Food Processing
- Beverage Manufacturers
- Metal Manufacturers
- Small Manufacturers (with less than 100 employees company-wide)
- Medium Manufacturers (with 100 to 249 employees company-wide)
- Dairies
- Irrigators (agricultural operations)
- Nurseries

Key measures include:

- Awareness and understanding of SEM business practices
- Sources of awareness of SEM business practices (to establish if NEEA is one of the sources of awareness)
- Involvement of industrial companies in SEM business practices, determining if companies showed evidence of the "threshold of a system" defined by NEEA's Industrial Sector Team as:
    - The company has set a goal related to energy;

    - The company's top leadership has dedicated resources (e.g., staff, budget, training, capital improvements) to achieve the goal.
    - Staff responsible for the goal regularly reports to top leadership on progress toward the goal
- Incidence of other energy management activities undertaken by industrial companies, e.g., leak detection and repair, lighting reduction, equipment operation schedule, equipment settings, equipment maintenance, etc.; barriers to implementing energy management activities
- Any technical assistance received for the activities undertaken, and if so, technical assistance from whom
- Incidence of installing energy efficient equipment, including the following related areas of interest:
    - Motivation for installing such equipment (including company policy for replacing worn equipment with energy efficient equipment; influence of equipment dealers)
    - Receipt of financial incentives (tax credits, rebates, utility incentives, etc.) for installing the equipment

This report presents findings from the Food Processing and Beverage Manufacturing sectors. Two additional reports present findings from Small and Medium Manufacturers and Metals Manufacturers, and Dairies, Irrigators and Nurseries.

Methodology

Market Strategies used the Dun & Bradstreet (D&B) database to develop lists of companies within these industries across the four Northwest states. The D&B database assigned companies to one of the eight sectors based on NAICS/SIC codes.

The sample included all facilities within these sectors within the four Northwest states (Oregon, Washington, Idaho and Montana). Due to the finite number of facilities in the region for most sectors (all except Small Manufacturers and Irrigators), Market Strategies sought to achieve the maximum number of completed interviews for each.

Market Strategies completed a total of 631 interviews for this project, including 99 among Food Processing facilities and 27 among Beverage Manufacturing facilities. The final count of completed interviews for each sector is below:

- Food Processors: n=99
- Beverage Manufacturing: n=27
- Metal Manufacturers: n=15
- Small Manufacturers (with less than 100): n=269
  (includes Food Processors, Beverage Manufacturers, and Metal Manufacturers from the above cells, and other small manufacturing businesses with fewer than 100 employees)

- Medium Manufacturers (with 100 to 249 employees): n=43
  (includes Food Processors, Beverage Manufacturers, and Metal Manufacturers from the above cells, and other medium-size manufacturing businesses with 100 to 249 employees)
- Dairies: n=79
- Irrigators (agricultural operations): n=123
- Nurseries: n=87

Table 1 below shows the sample disposition showing the population, target sample and final sample:

Table 1. Sample Disposition

Sector	Population (# of facilities***)	Number of Facilities Attempted to Contact	Target Sample	Final Sample (# of facilities interviewed)	Confidence Intervals for Final Sample****
Food Processors	2,069	1691	125	99	+/-9.6% at 95%
Beverage Manufacturers	886	630	NA*	27	+/-18.6% at 95%
Metals Manufacturers	551	298	NA*	15	+/-25.6% at 95%
Small Manufacturers (with fewer than 100 employees)	34,234	8275	125	269**	+/-5.9% at 95%
Medium Manufacturers (with 100 to 249 employees)	475	447	125	43**	+/-14.3% at 95%
Dairies	1318	1098	125	79	+/-10.7% at 95%
Irrigators	17,024	3627	125	123	+/-8.8% at 95%
Nurseries	1,168	902	125	87	+/-10.1% at 95%

* Toward the end of data collection, Market Strategies found that the completion rates for Medium Manufacturing, Dairies and Nurseries were hitting a ceiling due to the small population sizes of these sectors. NEEA then added the Beverage Manufacturing and Metals Manufacturing sectors to the study and directed MSI to shift remaining data collection efforts to target these two additional sectors.

** Small and Medium Manufacturers include Food Processors, Beverage Manufacturers, Metal Manufacturers and other manufacturing businesses.

*** Market Strategies derived facility counts from Dunn & Bradstreet records for facilities within each industry category across the four Northwest states (WA, OR, ID, MT).

**** Note on Confidence Intervals: These are standard, theoretical, ranges of how well the sample represents the relevant population responses and are for reference only. Formally, they assume a general, very heterogeneous, population. In reality, the relatively small reference populations in this study (specific types of manufacturers) can be assumed to be much more homogeneous than the general population as a whole. As such, response generalizability is higher than what these formal Confidence Intervals indicate; however, statisticians cannot calculate those true Confidence Intervals.

Market Strategies conducted data collection via telephone interviews, which averaged between 16 and 17 minutes in length from December 2010 through March 2011. The qualified survey respondent was the person at the facility responsible for energy management and/or decisions related to energy usage and energy efficiency efforts.

Questionnaire Design

NEEA provided an outline of desired questionnaire content and examples of questionnaires addressing the study objectives that NEEA implemented for past studies. Market Strategies and NEEA collaborated to develop and finalize the questionnaire. A copy of the questionnaire is provided in Appendix D.

Analytical Approach

Market Strategies International analyzed findings for the following subgroups:

- Employee size (all locations): <250, 250 or more
- Geographic classifications (State, Rural versus Urban)
- Occupation categories and job responsibilities
- Implementation of SEM practices

Market Strategies tested data at the 95 percent confidence level. MSI only included statistically significant differences between subgroups in this report.

Detailed Findings – Food Processing

Food Processing Facility Profiles

As part of the 2011 Strategic Energy Management (SEM) Market Assessment Survey, energy managers and decision-makers for 99 food processing facilities located in the four Northwest states were interviewed.

Nearly one-half (46 percent) of the food processing facilities surveyed report having 20 or fewer employees company-wide, while nearly one-quarter (24%) are part of large organizations with 250 or more employees.

Seven in ten (71 percent) food processing facilities interviewed are located in urban locations, with the balance (29 percent) located in rural areas. Nearly nine in ten (89 percent) Washington facilities and three-quarters (75 percent) of Oregon facilities are in urban locations. In contrast, more than one-half (56 percent) of Montana facilities and just under one-half (45 percent) of Idaho facilities are in rural locations.

Four in ten (43 percent) food processing facilities practice LEAN manufacturing, including nearly six in ten (58 percent) among the large food processing companies.

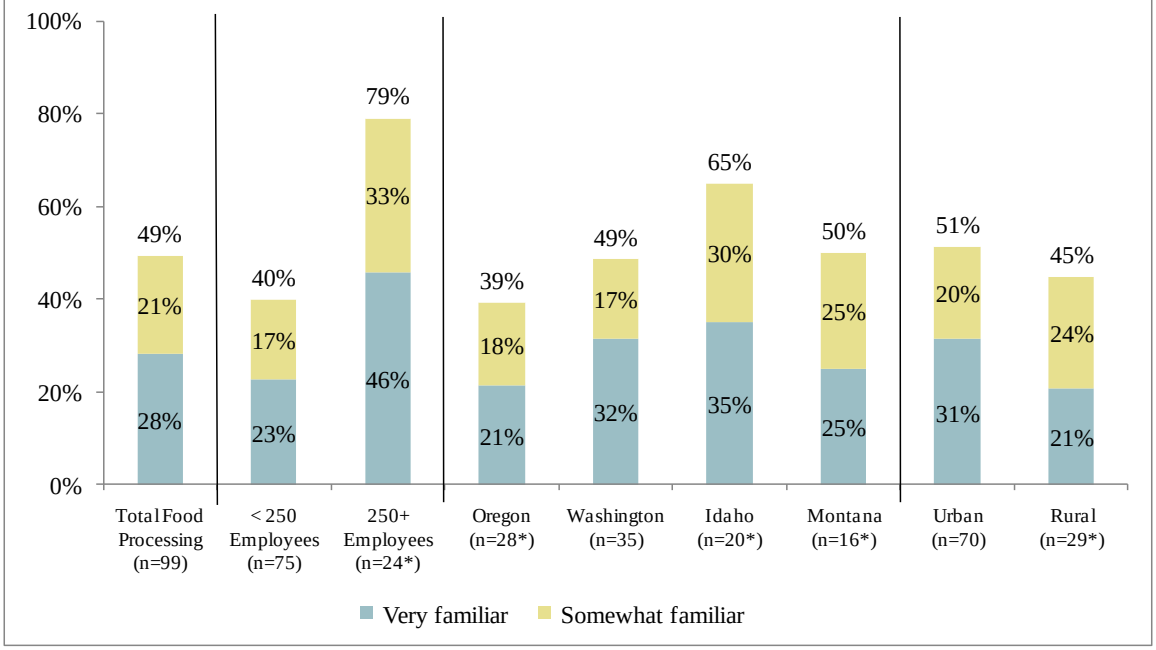
More than one in five (22 percent) food processors belong to the Northwest Food Processors Association (NWFPA), with NWFPA membership notably higher among the large food processing companies (50 percent), compared with smaller food processing companies (13 percent). Six in ten (60 percent) facilities that are part of smaller companies do not belong to an industry association.

Table 1 in Appendix A details the food processor facility profile for this survey.

Familiarity with Energy Efficiency and SEM

Familiarity with energy efficient operating practices is nearly universal (98 percent), while just one-half of food processing facility energy managers/decision-makers are familiar with SEM. Familiarity with SEM among larger food processing company facilities (79 percent) is nearly double that of smaller company facilities (40 percent). (Figure 1)

Figure 1: Familiarity with Strategic Energy Management Practices



*Small base size (<30) interpret results with caution.

Q3. Strategic Energy Management, or S-E-M, is a system of practices that leads to reliable and persistent energy savings. At a minimum, these practices include setting a goal related to energy, dedication of resources by top leadership to achieve the goal, ensuring staff regularly reports progress toward the goal to top management. How familiar are you with Strategic Energy Management practices?

Among respondents who are familiar with SEM, one in five (21 percent) say they learned about SEM through previous experience. Four percent learned about SEM through NEEA (all from large companies), with the same proportion learning about SEM through ETO (all from smaller companies). (Table 2)

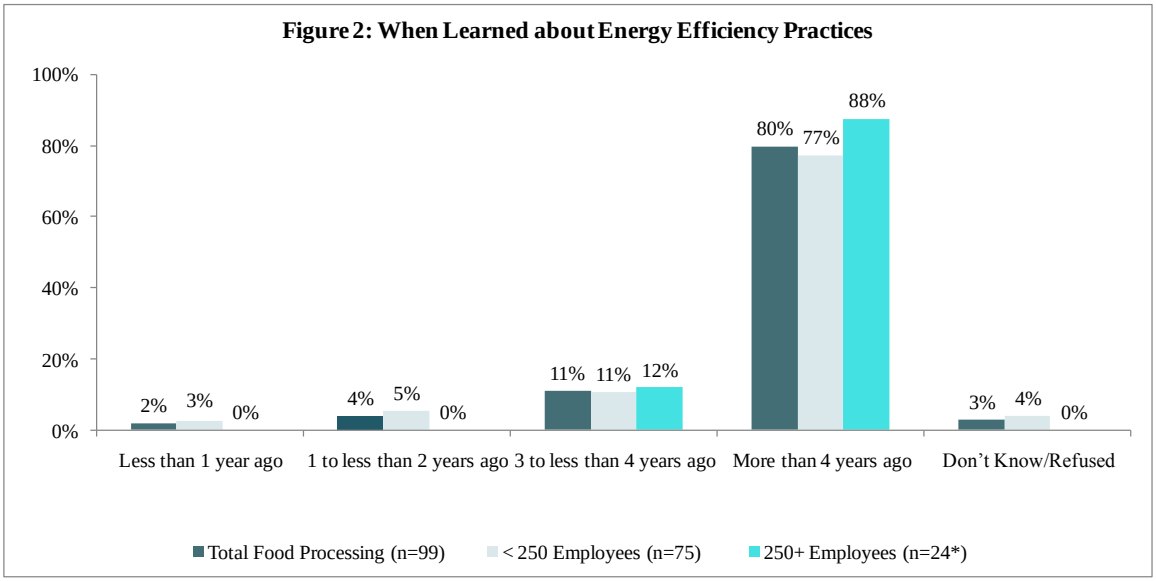
Table 2. How Learned about Strategic Energy Management

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Self-awareness/Always done this/Previous employer	21%	18%	27%	16%	26%	21%	18%	20%	25%
A utility company (general)	9%	8%	9%	11%	7%	14%	-	8%	10%
Newsletters/Magazines/Newspaper/TV/General media	6%	6%	5%	11%	4%	-	9%	8%	-
An educational facility	6%	8%	-	-	7%	-	18%	8%	-
NEEA (Northwest Energy Efficiency Alliance)	4%	-	14%	-	4%	14%	-	4%	5%
Word of mouth	4%	6%	-	11%	-	-	9%	4%	5%
ETO (Energy Trust of Oregon)	4%	6%	-	16%	-	-	-	6%	-
Contractor	3%	4%	-	-	4%	7%	-	2%	5%
Idaho Power	3%	-	9%	-	-	14%	-	2%	5%
Workshops/educational seminars	3%	2%	5%	5%	4%	-	-	2%	5%
Employer	3%	-	9%	-	4%	7%	-	2%	5%
Other	6%	6%	5%	-	4%	14%	9%	4%	10%
Don't Know/Refused	21%	22%	18%	21%	26%	7%	27%	24%	15%
Base (n)	***71***	***49***	***22****	***19****	***27****	***14****	***11****	***51***	***20****

*Small base size (<30) interpret results with caution.
Table includes total responses of 3 percent or higher. Full table shown in Appendix C.
Q3A. How did you first learn about strategic energy management practices?

The vast majority (80 percent) of food processing facilities have been aware of energy efficiency practices for more than four years. (Figure 2)

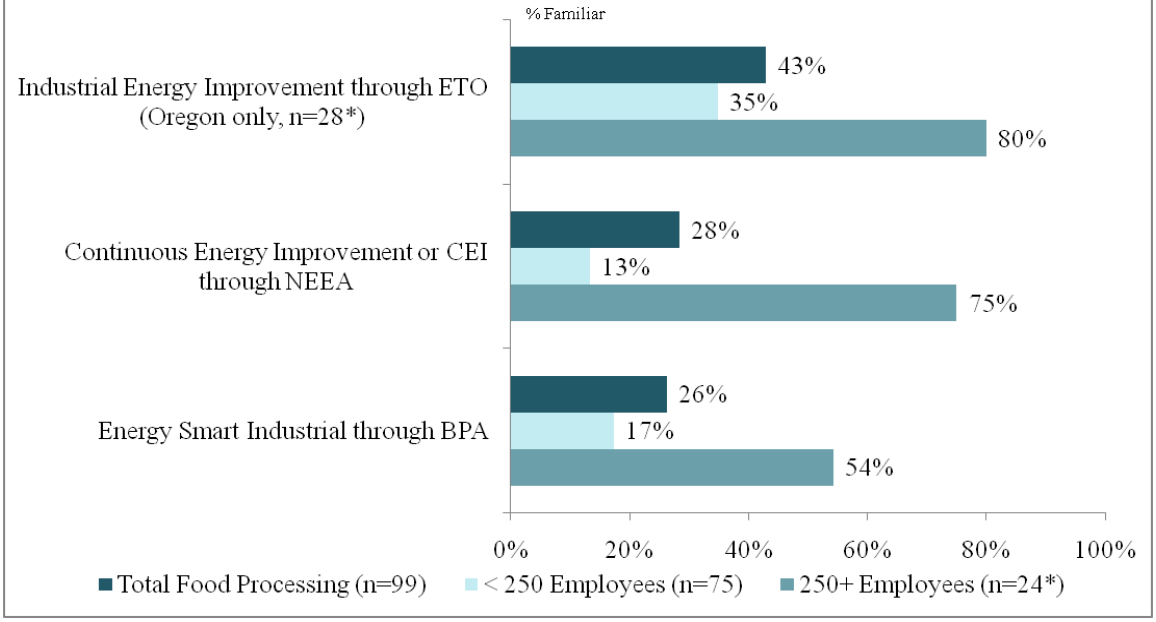
Figure 2: When Learned about Energy Efficiency Practices



*Small base size (<30) interpret results with caution.
Q2A. When did this facility first learn about energy efficient operating practices, for example turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc.?

Familiarity with energy management systems offered through NEEA, BPA and ETO is much higher among food processors with 250 or more employees versus those with less than 250 employees. Three-quarters (75 percent) of large company respondents are familiar with CEI through NEEA, versus just 13 percent of smaller company respondents who report this. (Figure 3)

Figure 3: Familiarity with SEM Systems

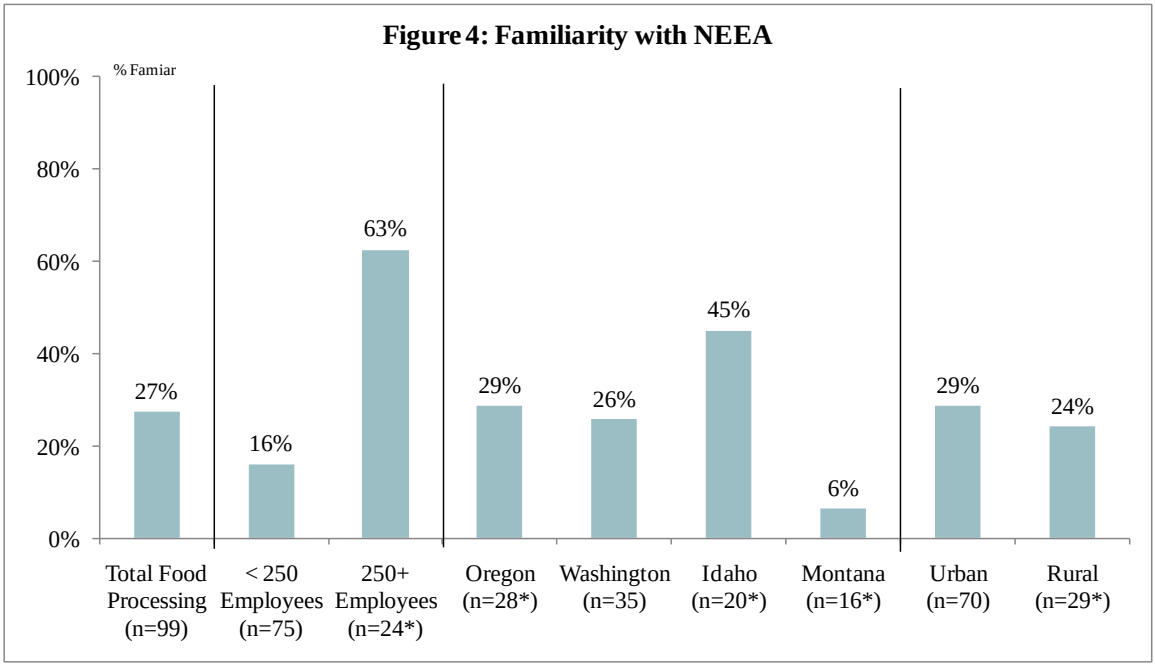


*Small base size (<30) interpret results with caution.

Q4-6. For each of the energy management systems I name, please tell me whether you are very familiar, somewhat familiar, not very familiar, or not at all familiar with the program. How familiar are you with...

More than one-quarter (27 percent) of Northwest food processors report being familiar with NEEA and its initiatives. Familiarity is highest among food processors with 250 or more employees at 63 percent, versus 16 percent among smaller companies. (Figure 4)

Figure 4: Familiarity with NEEA



*Small base size (<30) interpret results with caution.
Q52. How familiar are you with NEEA and its initiatives? Would you say that you are...?

Top three concerns / Importance of energy management practices

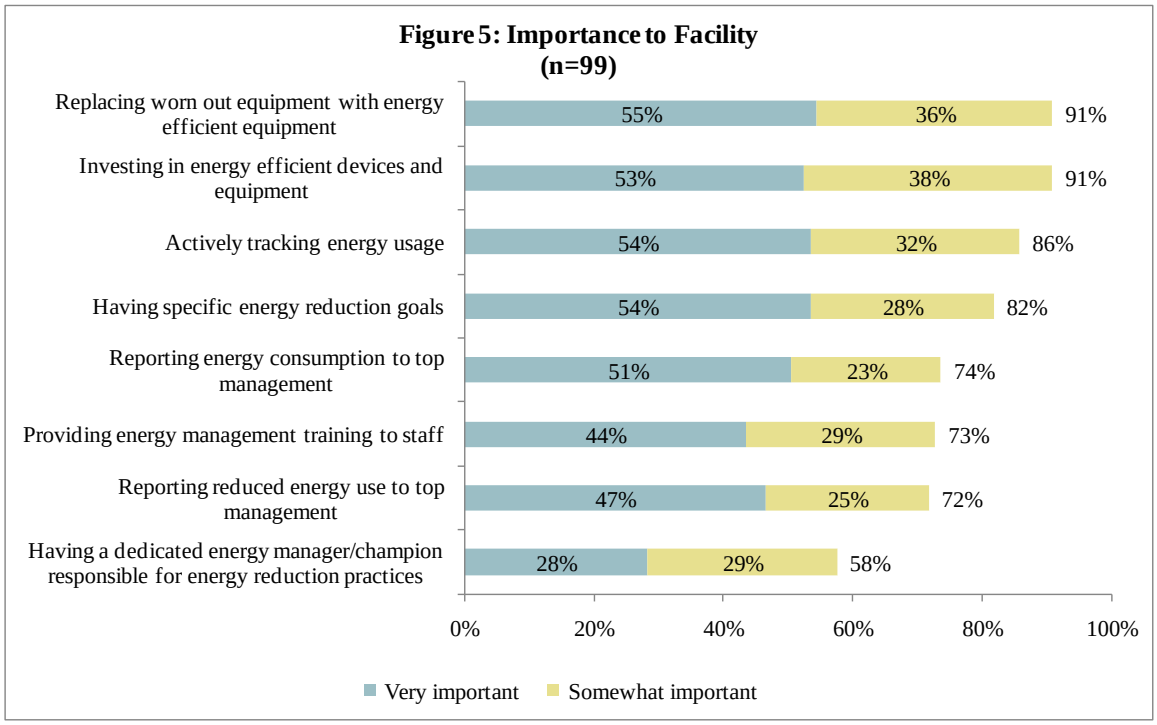
Among all food processing respondents, 19 percent state that *Efficient use of electricity/water/fuel* and *Cost of utilities* are their top concerns. *Profitability* (19 percent) is the top concern for smaller companies while *Cost of utilities* (33 percent) is the top concern among larger companies. (Table 3)

Table 3. Top Three Facility Concerns

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Efficient use of electricity/water/fuel	19%	17%	25%	21%	14%	20%	25%	20%	17%
Cost of electricity/water/fuel	19%	15%	33%	14%	17%	30%	19%	19%	21%
Operational efficiency	18%	16%	25%	21%	20%	10%	19%	21%	10%
Profitability	16%	19%	8%	21%	11%	10%	25%	16%	17%
Operational costs (rent/machinery/materials/labor)	15%	16%	13%	11%	14%	15%	25%	16%	14%
Longevity/Viability/Sustainability	13%	12%	17%	18%	6%	25%	6%	11%	17%
Quality production	13%	13%	13%	18%	9%	15%	13%	10%	21%
Safety	13%	13%	13%	18%	17%	10%	-	14%	10%
Maintenance	9%	11%	4%	7%	6%	20%	6%	10%	7%
Weather/Environment	8%	4%	21%	-	6%	30%	-	9%	7%
Don't Know/Refused	7%	7%	8%	7%	6%	5%	13%	6%	10%
Base (n)	***99***	***75***	***24***	***28****	***35***	***20****	***16****	***70***	***29****

*Small base size (<30) interpret results with caution.
Verbatim responses for this open-end question are shown in Appendix E.
Q1. What are your company's top three concerns for this facility?

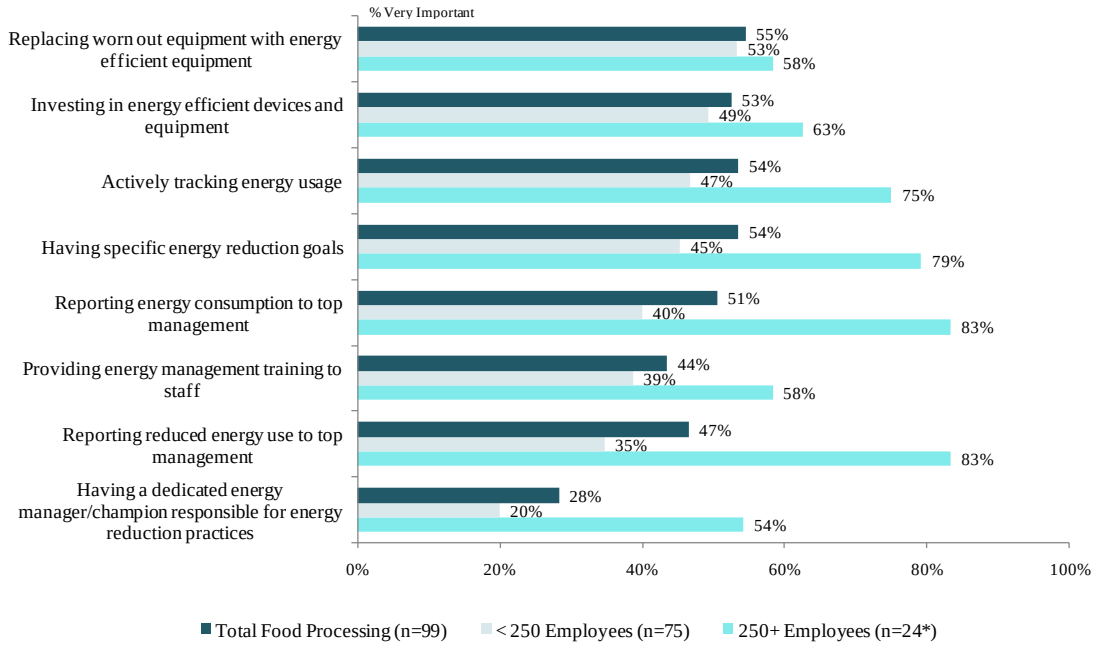
Most food processing facility energy managers/decision-makers recognize various energy efficiency and energy management activities as important, led by nine in ten (91 percent) indicating *Replacing worn out equipment with energy efficient equipment* and *Investing in energy efficient devices and equipment* as very or somewhat important to their company. Having a *Dedicated energy manager/champion responsible for energy reduction practices* registers the lowest proportion of facilities rating as important (58 percent). (Figure 5)



*Small base size (<30) interpret results with caution.
Q7-13. For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company. How important is...

Focusing on "very important" responses for these measures, there are notable differences between companies with 250 or more employees and their smaller counterparts. Nearly eight in ten (79 percent) large food processing facilities view *Having specific energy reduction goals* as "very important" compared with fewer than one-half (45 percent) of smaller facilities who indicate this. There are similarly large gaps between larger facilities and smaller facilities viewing *Reporting reduced energy use to top management* (83 percent versus 35 percent), *Having a dedicated energy manager / champion responsible for energy reduction practices* (54 percent versus 20 percent), and several other elements that facilitate the establishment of SEM practices. (Figure 6)

Figure 6: Importance to Facility



*Small base size (<30) interpret results with caution.
Q7-13. For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company. How important is...

Implementation of SEM, Elements of SEM

A facility has to satisfy all three criteria below in order to meet the minimum requirement for evidence of SEM at the facility:

1. The company has set a goal related to energy;
2. The company's top leadership has dedicated resources (e.g., staff, budget, training, capital improvements) to achieve the goal.
3. Staff responsible for the goal regularly reports to top leadership on progress toward the goal.

Currently, eight percent of all Northwest food processing facilities meet all three SEM criteria. All are among facilities that are part of companies with 250 or more employees. Among these larger companies, 33 percent meet the SEM criteria, versus none among the smaller companies.

A major barrier to meeting SEM criteria among smaller companies appears to be dedicating resources to energy reduction. Only one percent of facilities that are part of companies with fewer than 250 employees report having a dedicated energy champion, providing staff training in energy reduction, *and* regularly reporting progress toward energy reduction goals to top management. (Table 4)

Table 4: Meets SEM Criteria

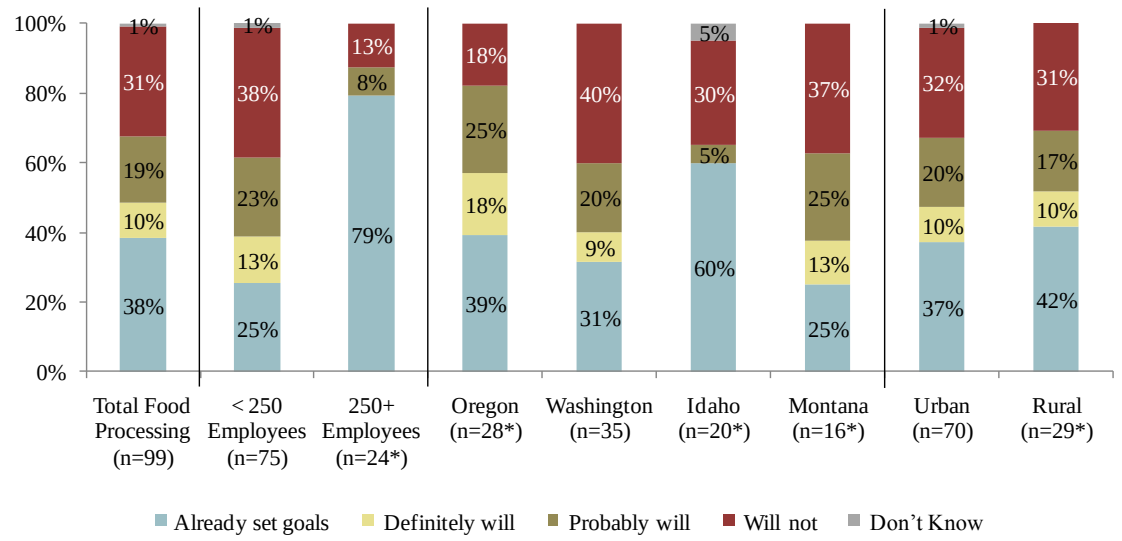
	Total Food Processing	Number of Employees		Geography	
		1 - 249	250+	Urban	Rural
Have set energy reduction goals	38%	25%	79%	37%	41%
Dedicated resources to energy reduction (dedicated energy champion, staff trained in energy reduction, and investment in EE equipment)	10%	1%	38%	13%	3%
Regularly report progress toward goal to top leadership	32%	20%	71%	29%	41%
Meet SEM criteria (conduct all three activities above)	**8%**	**0%**	**33%**	**10%**	**3%**
Base (n)	***99***	***75***	***24****	***70***	***29****

*Small base size (<30) interpret results with caution.

Energy Reduction Goals

Among all food processing facilities, 38 percent have set energy reduction goals. Goal setting is much more common among larger companies, with 79 percent of facilities that are part of large companies reporting that goals have been established, compared with only one-quarter (25 percent) of smaller companies with goals in place. When compared across states, three-fifths (60 percent) of facilities in Idaho report having already set energy reduction goals. Oregon, Washington, and Montana are comparable or below the aggregate for food processing facilities (39 percent-25 percent). (Figure 7)

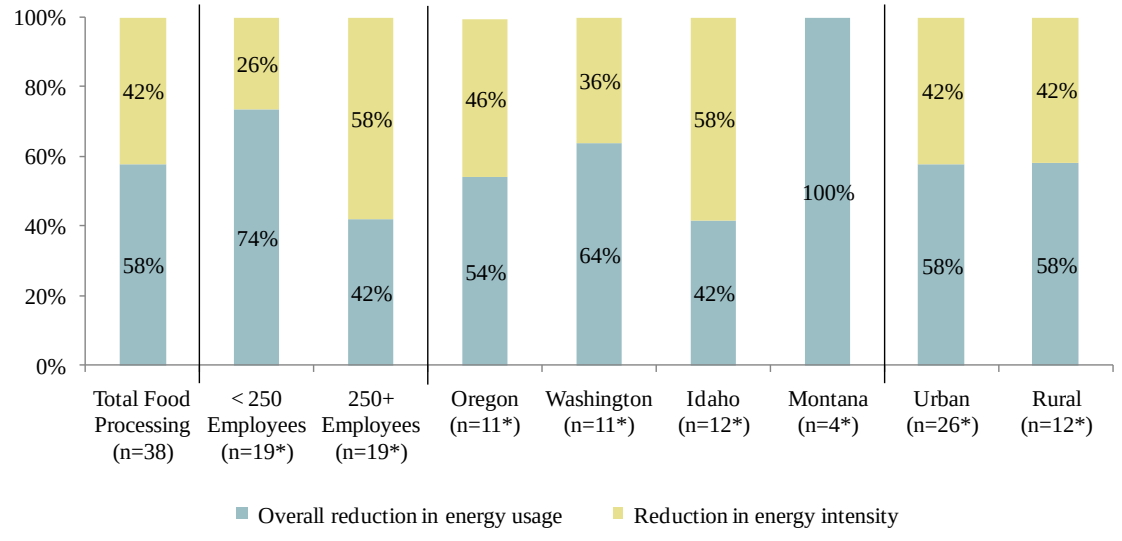
Figure 7: Energy Reduction Goals, Likelihood to Set in Future



*Small base size (<30) interpret results with caution.
Q14. Does your company set energy reduction goals for this facility?
Q14A. Will your facility definitely, probably, probably not, or definitely not set energy reduction goals for this facility within the next two years?

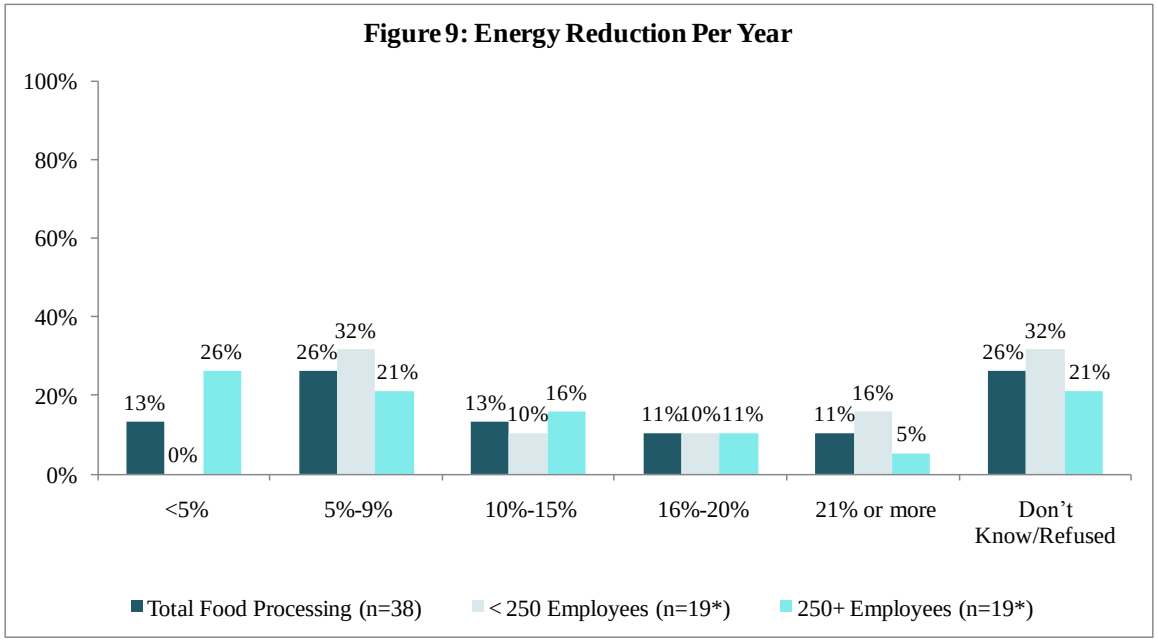
Of the facilities that have already set energy reduction goals, most facilities that are part of smaller companies report that the goals are set in terms of a reduction in *energy usage*, while most larger companies report using an *energy intensity* metric. (Figure 8)

Figure 8: Energy Use versus Energy Intensity



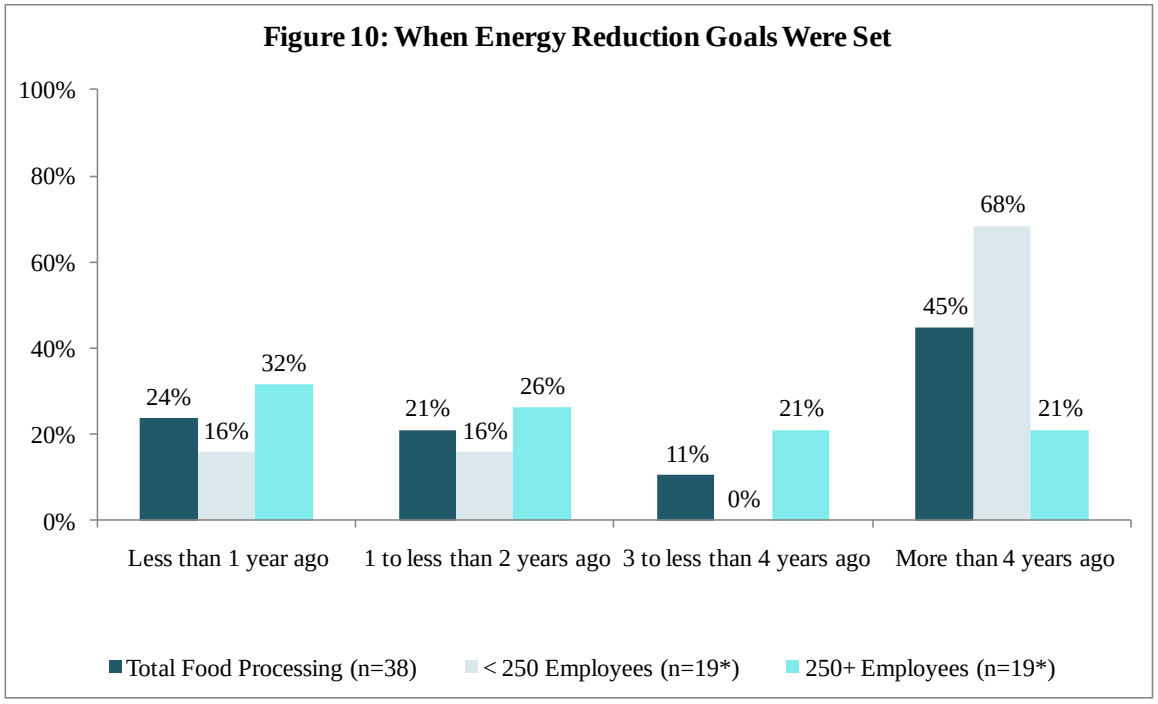
*Small base size (<30) interpret results with caution.
Q15. Are these goals set in terms of an overall reduction in energy usage, or in terms of "energy intensity" which is the amount of energy used per unit of production?

Among those with goals, one-quarter (26 percent) of large company facilities report energy reduction goals of less than 5 percent per year, versus no smaller companies reporting goals this low. (Figure 9)



*Small base size (<30) interpret results with caution.
Q16. In terms of a percentage reduction per year, what is your facility's specific goal for energy/energy intensity reduction?

More than two-thirds (68 percent) of smaller company facilities set their annual energy reduction goals more than four years ago, while more large company facilities (47 percent) appear to have set their goals more recently. (Figure 10)



*Small base size (<30) interpret results with caution.
Q17. Approximately how long ago were these goals set?

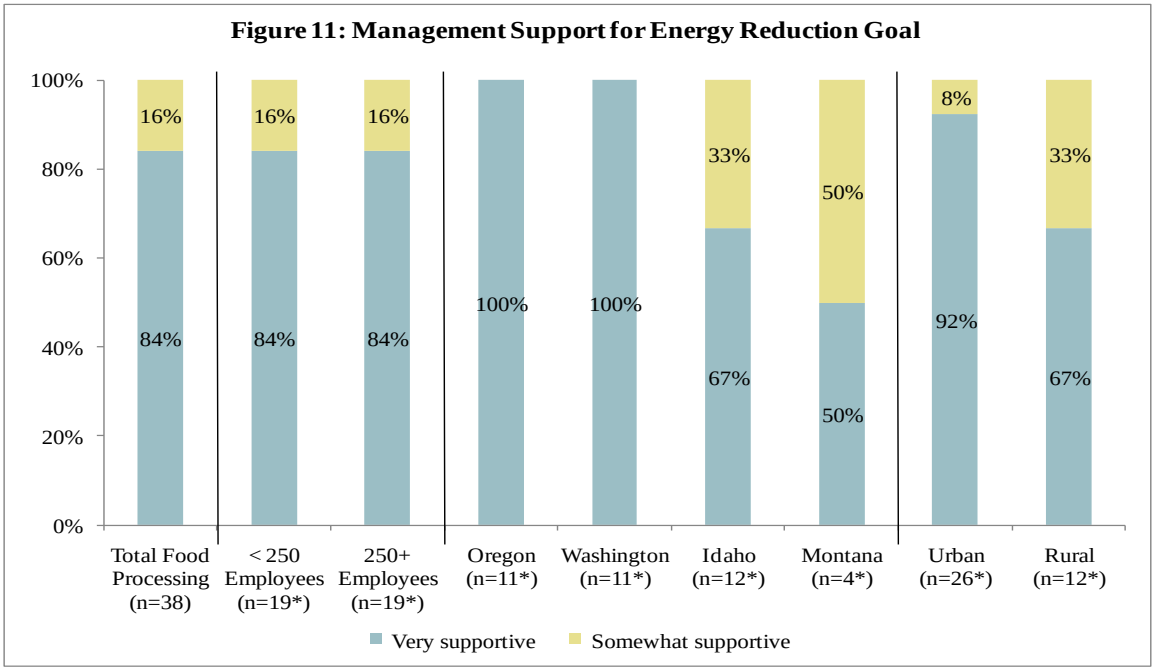
Among food processing facilities with energy reduction goals, almost one quarter (24 percent) report that a utility influenced their decision to set energy reduction goals, with nearly four in ten (37 percent) small company facilities reporting this. Among large company facilities, NEEA was the most frequently cited influencer (26 percent), followed by the U.S. Department of Energy and the NWFPA (both at 21 percent). (Table 5)

Table 5. Organizations Influencing Decision to Set Energy Reduction Goals

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Utilities (general)	24%	37%	11%	18%	27%	25%	25%	15%	42%
NEEA (Northwest Energy Efficiency Alliance)	16%	5%	26%	18%	-	25%	25%	12%	25%
DOE (U.S. Department of Energy)	11%	-	21%	-	-	33%	-	12%	8%
NWFPA (Northwest Food Processors Association)	11%	-	21%	18%	-	17%	-	15%	-
Self-awareness/Internal	8%	5%	11%	9%	-	17%	-	12%	-
ETO (Energy Trust of Oregon)	8%	11%	5%	27%	-	-	-	8%	8%
BPA (Bonneville Power Authority)	5%	-	11%	-	9%	8%	-	8%	-
Environmental groups	5%	5%	5%	-	9%	8%	-	8%	-
Other	13%	16%	11%	9%	18%	17%	-	12%	17%
None	8%	5%	11%	9%	18%	-	-	12%	-
Don't Know/Refused	21%	21%	21%	18%	18%	17%	50%	19%	25%
Base (n)	***38***	***19****	***19****	***11****	***11****	***12****	***4****	***26****	***12****

*Small base size (<30) interpret results with caution.
Q18. What organizations, if any, influenced the decision to set energy/energy intensity reduction goals?

Management support for energy reduction goals is universal across all food manufacturing facilities with goals in place (100 percent). (Figure 11)



*Small base size (<30) interpret results with caution.
Q19. Would you describe the level of management support for your facility's energy/energy intensity reduction goals as...?

Food processing facilities report *corporate directives or company culture* in general (32 percent) as the factor that contributed most to management support for their facilities' energy reduction goals, with more than one-half (58 percent) of larger company facilities reporting this. Nearly three in ten (29 percent) facilities report that energy reduction goals are driven by *wanting to save money*. *Wanting to save money* is the most frequently cited impetus for setting energy reduction goals among smaller food processing facilities that have done so. (Table 6)

Table 6. Factors Contributing to Energy Reduction Goals

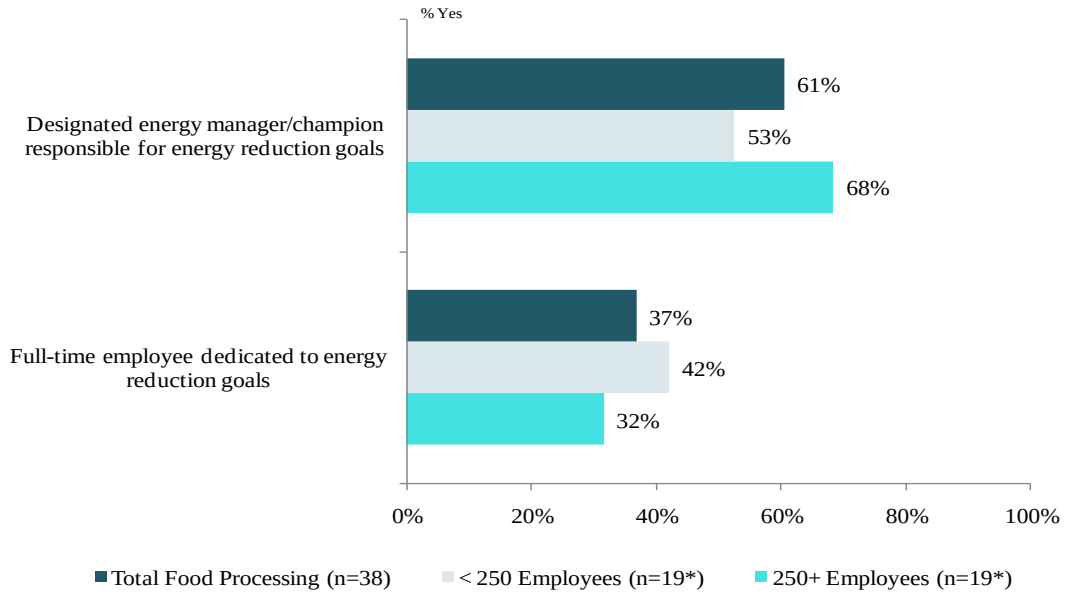
	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Company culture / Corporate directive	32%	5%	58%	9%	36%	50%	25%	35%	25%
Want to save money	29%	47%	11%	36%	46%	8%	25%	23%	42%
Energy efficiency	13%	11%	16%	18%	-	17%	25%	15%	8%
Environmentally Conscious	13%	5%	21%	27%	9%	8%	-	19%	-
Sole employee/Manager	11%	21%	-	18%	18%	-	-	15%	-
Other	16%	11%	21%	9%	-	33%	25%	12%	25%
None	3%	5%	-	-	9%	-	-	4%	-
Don't Know	5%	11%	-	9%	-	-	25%	4%	8%
Base (n)	***38***	***19****	***19****	***11****	***11****	***12****	***4****	***26****	***12****

*Small base size (<30) interpret results with caution.
Verbatim responses for this open-end question are shown in Appendix E.
Q20. What factors contributed to your rating of management support for your facility's energy/ energy intensity reduction goals as [RESTORE Q19].

Dedicated Resources to Energy Reduction: Energy Champion

Among facilities with energy reduction goals in place, most (61 percent) report having a designated energy manager or champion who is responsible for implementing the energy reduction goals as opposed to a full-time employee dedicated to that effort (37 percent). (Figure 12)

Figure 12: Energy Reduction Implementation Employee Roles



*Small base size (<30) interpret results with caution.
Q21. Does your facility have a full-time employee dedicated to implementing the facility's energy/energy intensity reduction goals?
Q22. Is someone at your facility a designated "energy manager" or an "energy champion" who is charged with implementing the energy/energy intensity reduction goals?

Dedicated Resources to Energy Reduction: Energy Management Training

Four in ten (39 percent) food processing facilities report that the staff at their facility receives energy management training. Training is more common within large company facilities (62 percent) than in small company facilities (32 percent). (Figure 13)

Figure 13: Staff Receives Training on Energy Management

*Small base size (<30) interpret results with caution.
Q23. Does staff at your facility receive training on energy management?

Among food processing facilities where staff does receive energy management training, nine in ten (90 percent) indicate that *"Efficient operation of equipment"* is a topic that is

included in the training, mentioned by all (100 percent) large company facilities and most (83 percent) small companies. (Table 7)

Table 7. Topics Included in Employee Energy Management Training

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Efficient operation of equipment	90%	83%	100%	83%	92%	100%	88%	94%	71%
Purchasing efficient equipment	72%	63%	87%	67%	69%	100%	63%	75%	57%
Available technical resources (where to go for help)	62%	42%	93%	75%	62%	83%	25%	69%	29%
Tracking energy use	56%	38%	87%	58%	62%	83%	25%	56%	57%
Setting energy reduction goals	54%	46%	67%	33%	62%	83%	50%	53%	57%
Availability of financial incentives for projects	46%	29%	73%	58%	31%	83%	25%	50%	29%
Writing an energy management plan	28%	21%	40%	33%	23%	67%	-	31%	14%
Other	3%	-	7%	-	-	17%	-	3%	-
Base (n)	***39***	***24****	***15****	***12****	***13****	***6****	***8****	***32***	***7****

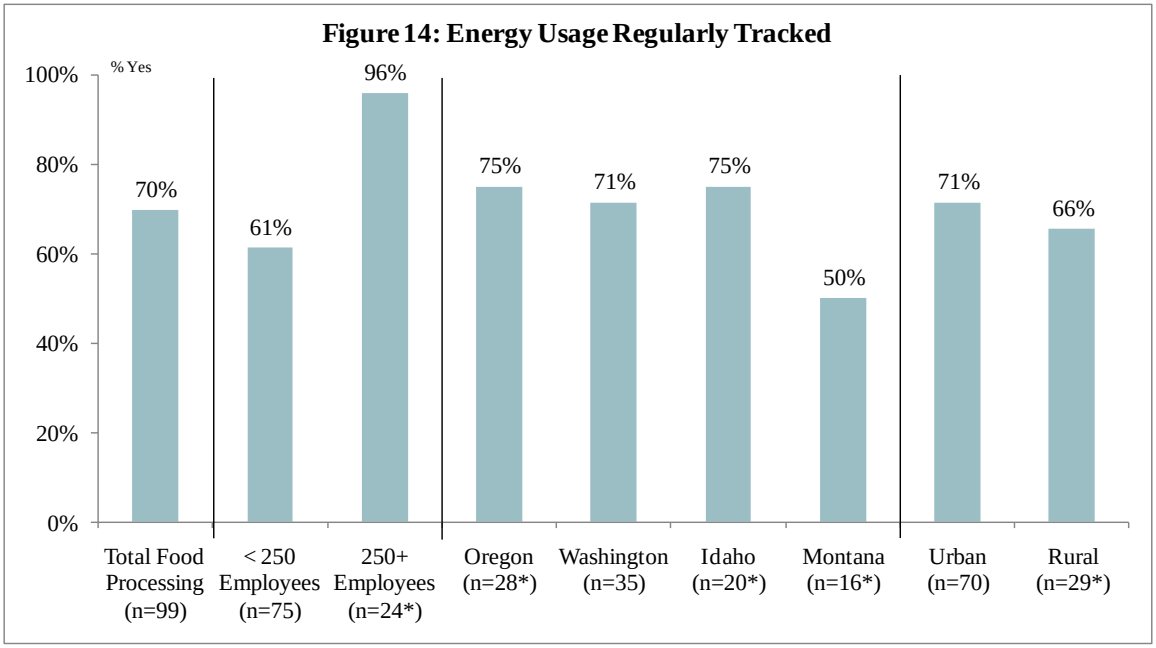
*Small base size (<30) interpret results with caution.
Q24. Which of the following topics are typically included in energy management training for staff at your facility?

Energy Tracking and Reporting to Top Management

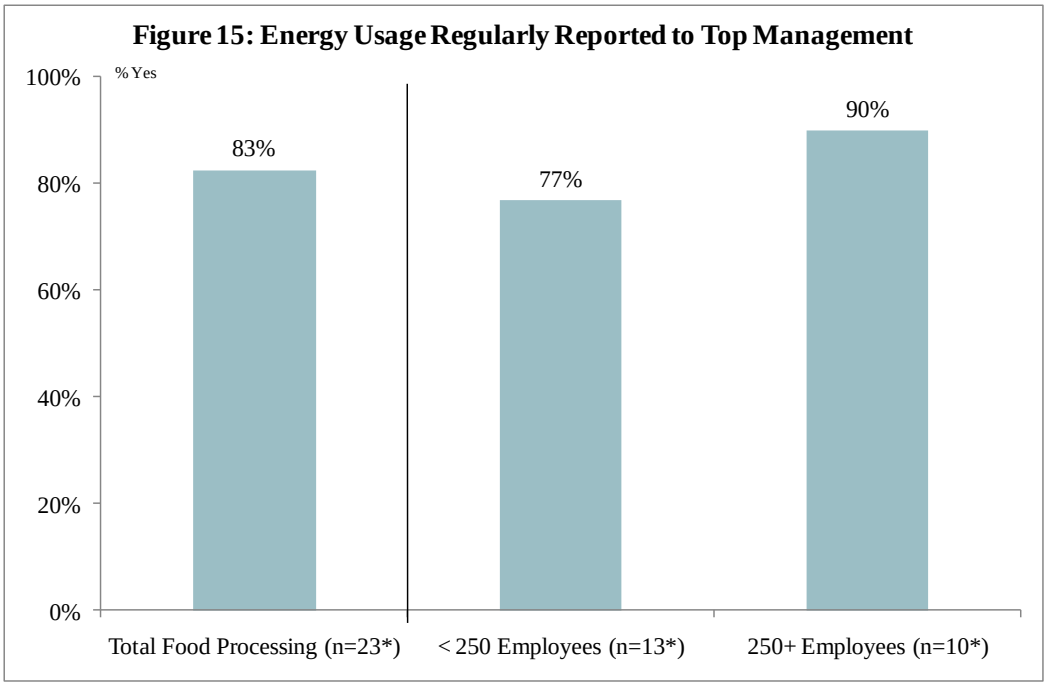
Seven in ten (70 percent) food processing facilities regularly track their energy usage, with 96 percent of facilities that are part of large companies reporting this versus 61 percent of smaller companies. (Figure 14)

Most food processing facilities that track usage indicate that this information is regularly reported to top management (83 percent). (Figure 15)

Figure 14: Energy Usage Regularly Tracked



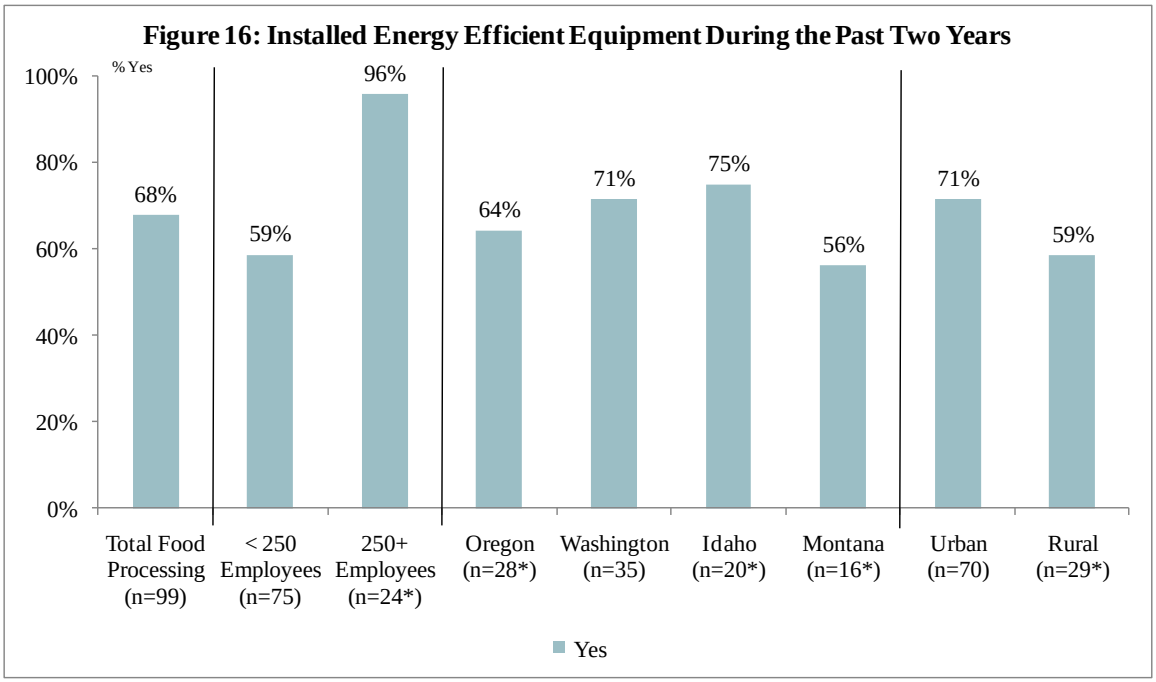
*Small base size (<30) interpret results with caution.
Q25. Is energy usage regularly tracked at this facility?



*Small base size (<30) interpret results with caution.
Note: This question was added during fielding resulting in small base sizes.
Q25A. Is energy usage at your facility regularly reported to the top leadership of your company?

Capital Improvements – Energy Efficient Equipment Installation

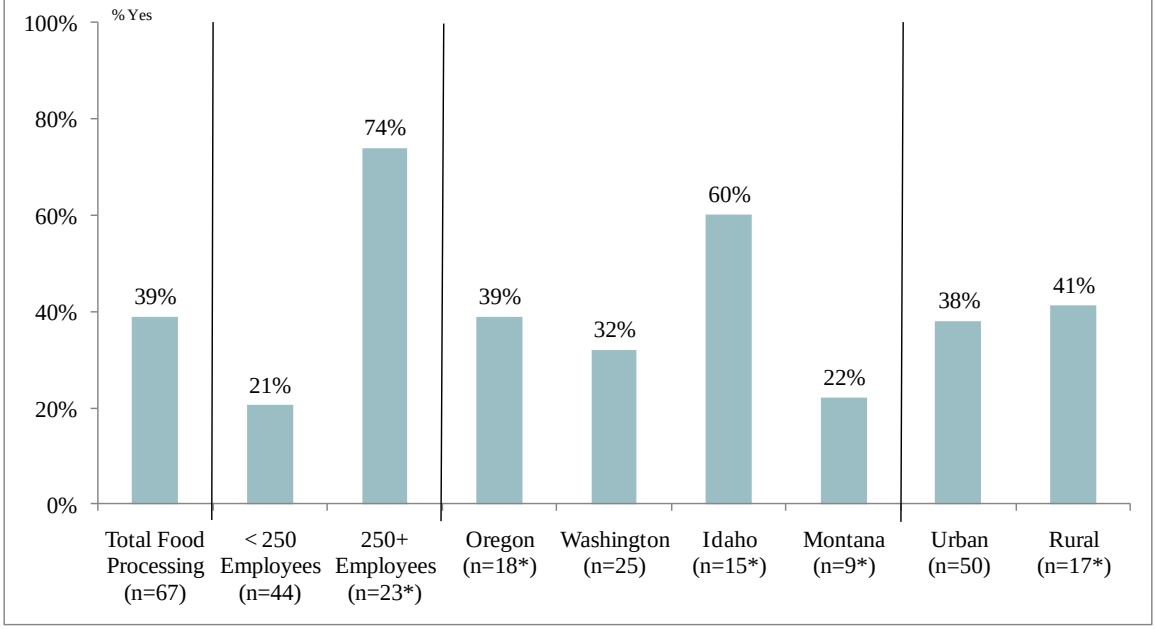
Over two-thirds (68 percent) of all food processing facilities have installed energy efficient equipment during the past two years. Nearly all (96 percent) larger company facilities report installing energy efficiency equipment than smaller companies (59 percent). (Figure 16)



*Small base size (<30) interpret results with caution.
Q36. Has your facility installed energy efficient equipment during the past two years?

Among food processing facilities that have installed energy efficiency equipment within the past two years, 39 percent are currently in the process of doing so. More large (74 percent) than small (21 percent) companies are currently installing equipment. (Figure 17)

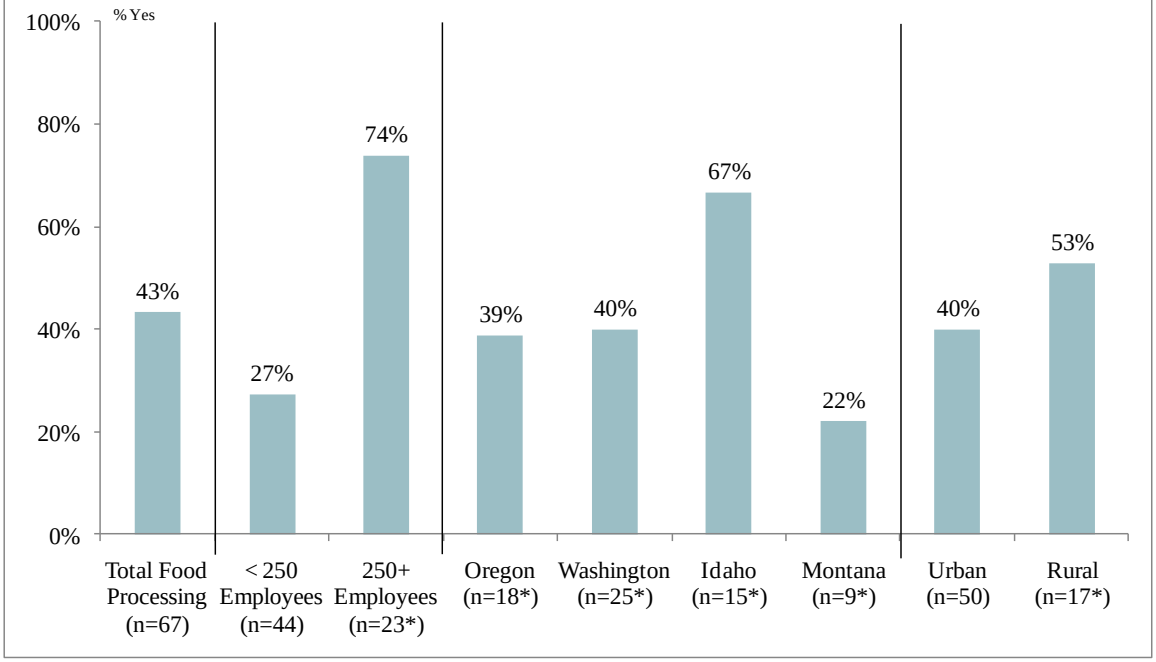
Figure 17: Currently in Process of Installing Energy Efficient Equipment



*Small base size (<30) interpret results with caution.
Q37. Is your facility currently in the process of installing energy efficient equipment?

Just fewer than one-half (43 percent) of food processing facilities report that they have quantified the amount of energy savings resulting from installing energy efficiency equipment, with more larger (74 percent) than smaller (27 percent) company facilities doing so. (Figure 18)

Figure 18: Quantified the Amount of Energy Savings from Recent Projects



*Small base size (<30) interpret results with caution.
Q39. Has your facility specifically quantified the amount of energy savings from these projects?

Among facilities that have or are in the process of installing energy efficiency equipment, most (78 percent) report that *saving energy and money* was the primary motivating factor. Just over one-third (35 percent) of larger company facilities indicate *tax incentives or rebates* was also a factor. (Table 8)

Table 8. Motivating Factors to Install Energy Efficient Equipment

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Save energy and money	78%	73%	87%	83%	84%	73%	56%	82%	65%
Tax incentives or rebates	13%	2%	35%	6%	8%	40%	-	16%	6%
Needed to be replaced	10%	16%	-	11%	4%	7%	33%	8%	18%
Environmental stewardship	6%	7%	4%	11%	8%	-	-	8%	-
The equipment distributor or manufacturer recommended it	6%	5%	9%	6%	-	13%	11%	6%	6%
Recommended in an energy audit	3%	-	9%	6%	-	7%	-	4%	-
To save money	2%	-	4%	-	-	7%	-	-	6%
To save energy	2%	2%	-	6%	-	-	-	2%	-
Other	9%	9%	9%	6%	12%	13%	-	12%	-
Don't Know	5%	5%	4%	-	8%	7%	-	2%	12%
Base (n)	***67***	***44***	***23****	***18****	***25****	***15****	***9****	***50***	***17****

*Small base size (<30) interpret results with caution.
Q40. What factors motivated your facility to install energy efficient equipment?

Among facilities making energy efficiency upgrades, approximately one-half (51 percent) mention using the efficiency rating or label on the equipment to determine if it was energy efficient. Four in ten (39 percent) relied on information from the equipment dealer. More than one-quarter of larger company facilities also mention using personal experience (26 percent) and utility rebates (30 percent) to assess efficiency. (Table 9)

Table 9. Information Sources to Determine Energy Efficiency

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Efficiency rating or label on equipment	51%	43%	65%	44%	40%	73%	56%	60%	24%
Equipment dealer said it was efficient	39%	32%	52%	39%	28%	60%	33%	38%	41%
Personal experience	15%	9%	26%	22%	8%	20%	11%	18%	6%
Research/Reviews (general)	13%	16%	9%	22%	4%	7%	33%	12%	18%
Met utility rebate requirements	12%	2%	30%	17%	-	33%	-	14%	6%
Recommendations	10%	9%	13%	11%	8%	20%	-	12%	6%
The bill	8%	11%	-	17%	8%	-	-	8%	6%
Equipment documents/ Specs/Manufacturer	3%	2%	4%	6%	4%	-	-	2%	6%
Information from the utility company	2%	-	4%	-	-	7%	-	-	6%
Tracking our consumption	2%	-	4%	6%	-	-	-	2%	-
Other	2%	2%	-	-	-	-	11%	-	6%
Don't know	6%	9%	-	-	16%	-	-	6%	6%
Base (n)	***67***	***44***	***23****	***18****	***25****	***15****	***9****	***50***	***17****

*Small base size (<30) interpret results with caution.
Q38. What information does your facility rely upon to tell if the equipment that is purchased is energy efficient?

Among this same group, almost one-half (48 percent) received a rebate or incentive from a utility or other organization for installing energy efficient equipment. More large (74 percent) than small (34 percent) company facilities received a rebate. (Table 10)

Table 10. Incentives Received for Installing Energy Efficient Equipment

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Rebate or incentive from a utility, other organization or institution	48%	34%	74%	44%	48%	60%	33%	54%	29%
State tax credit	16%	9%	30%	44%	-	20%	-	20%	6%
Federal tax credit	13%	9%	22%	17%	8%	27%	-	18%	-
Or something else	2%	-	4%	-	-	7%	-	-	6%
None	43%	61%	9%	44%	44%	27%	67%	40%	53%
Don't Know	5%	2%	9%	-	8%	7%	-	2%	12%
Base (n)	***67***	***44***	***23****	***18****	***25****	***15****	***9****	***50***	***17****

*Small base size (<30) interpret results with caution.
Q41. Which of the following financial incentives, if any, did your company receive for installing energy efficient equipment at this facility?

Among facilities receiving an incentive or rebate from a utility or other organization, one-third (34 percent) say it was from a utility in general while 16 percent say the incentive came from either ETO or BPA. (Table 11)

Table 11. Utility, Organization or Institution Providing Incentive, Tax Credit or Rebate

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Utility	34%	47%	24%	25%	42%	22%	67%	33%	40%
Idaho Power	19%	-	35%	-	-	67%	-	11%	60%
BPA (Bonneville Power Authority)	16%	7%	24%	-	17%	33%	-	19%	-
ETO (Energy Trust of Oregon)	16%	20%	12%	63%	-	-	-	15%	20%
State or Federal Government	6%	-	12%	13%	-	11%	-	7%	-
PGE	3%	-	6%	-	-	11%	-	4%	-
Puget Sound Energy	3%	7%	-	-	8%	-	-	4%	-
Other	44%	53%	35%	25%	67%	22%	67%	48%	20%
Base (n)	***32***	***15****	***17****	***8****	***12****	***9****	***3****	***27****	***5****

*Small base size (<30) interpret results with caution.
Q42. Which utility, organization or institution provided the incentive, tax credit, or rebate?

Three in ten (30 percent) food processing facilities currently have a policy to replace worn out equipment with high-efficiency equipment. Policies are somewhat more prevalent among larger (50 percent) than smaller (24 percent) company facilities.

Most facilities (78 percent) report that they are aware of efficient equipment for their type of work. Of those that are aware, the vast majority (69 percent) have been aware for more than four years.

Most facilities (79 percent) report that energy efficiency is always (19 percent) or sometimes (60 percent) emphasized by equipment dealers. (Table 12)

Table 12. Energy Efficiency Replacement Policy and Awareness			
	Total Food Processing	Number of Employees	
		<250	250+
Has equipment replacement policy			
Yes	30%	24%	50%
No	68%	75%	46%
Don't Know	2%	1%	4%
Aware of efficient equipment for type of work			
Yes	78%	72%	96%
No	21%	27%	4%
Don't Know	1%	1%	-
Length of time aware of energy efficient equipment (if Q44=Yes, n=77)			
Less than 1 year	5%	7%	-
1 to less than 3 years ago	10%	11%	9%
3 to less than 4 years ago	13%	11%	17%
More than 4 years ago	69%	67%	74%
Don't Know/Refused	3%	4%	-
Energy efficiency emphasized by equipment dealers			
Always	19%	16%	29%
Sometimes	60%	59%	63%
Never	19%	23%	8%
Don't Know/Refused	2%	2%	-
Base (n)	***99***	***75***	***24****

*Small base size (<30) interpret results with caution.

Q43. Does your facility have a specific policy that says you should replace worn out equipment with "high efficiency" equipment – that is, equipment that is more efficient than what is considered standard efficiency or code at the time of purchase?

Q44. Is your company aware of energy efficient equipment for the type of work done at this facility?

Q45. Has your company been aware of energy efficient equipment for the type of work done at this facility for...?

Q46. Do your equipment dealers emphasize energy efficiency when explaining your equipment options…?

Operations and Maintenance Activities

When asked what actions or steps have been taken in the past two years to reduce energy usage, most respondents mention turning off lights when not in use (58 percent), followed by equipment maintenance at 37 percent. About one-quarter mention developing an equipment operations schedule or changing equipment settings to manage energy usage. (Table 13)

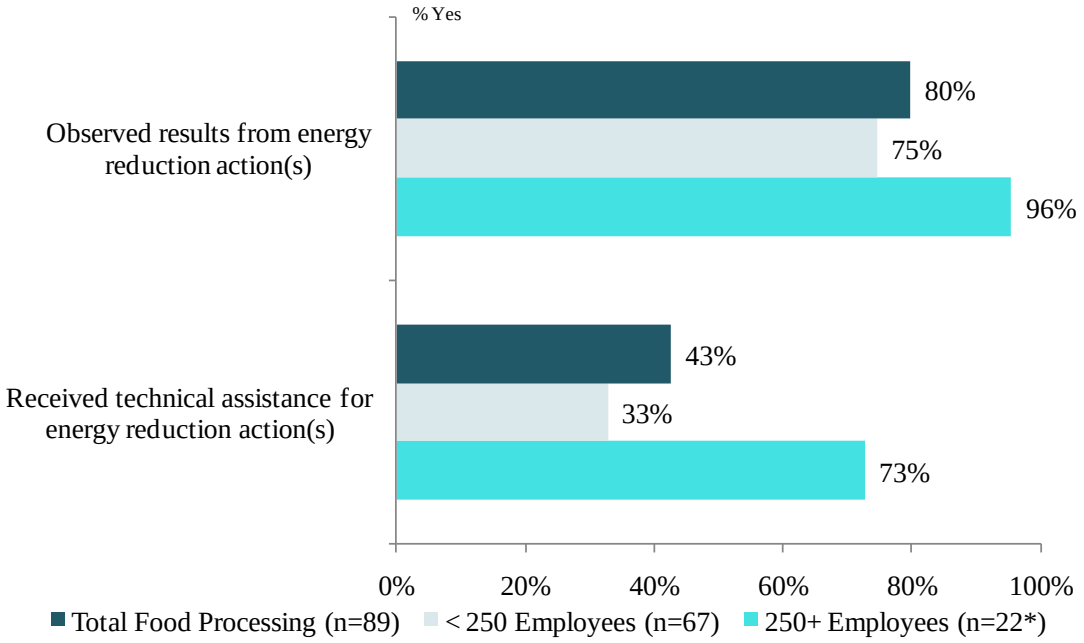
Table 13. Actions Taken in the Past Two Years to Reduce Energy Usage

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Lighting reduction, turning lights off when not in use	58%	56%	63%	39%	71%	55%	63%	63%	45%
Equipment Operations and Maintenance	37%	37%	38%	32%	34%	50%	38%	40%	31%
Equipment operation schedule or turning equipment off when not in use	27%	27%	29%	21%	17%	45%	38%	27%	28%
Equipment settings (decreasing temperature, pressure, motor speed)	24%	24%	25%	25%	17%	30%	31%	21%	31%
Insulate pipes or tanks	15%	15%	17%	14%	17%	10%	19%	19%	7%
Removing equipment	11%	11%	13%	14%	14%	5%	6%	11%	10%
Leak tag program / leak detection and repair (check for air leaks.)	10%	8%	17%	7%	9%	10%	19%	11%	7%
Upgraded equipment	8%	8%	8%	18%	-	5%	13%	11%	-
Upgraded lighting	8%	7%	13%	11%	11%	5%	-	9%	7%
General conservation/ awareness	5%	4%	8%	4%	6%	10%	-	4%	7%
No actions taken	8%	9%	4%	11%	11%	5%	-	7%	10%
Don't Know	2%	1%	4%	4%	3%	-	-	3%	-
Base (n)	***99***	***75***	***24***	***28****	***35***	***20****	***16****	***70***	***29****

*Small base size (<30) interpret results with caution.
Table includes total responses of 5 percent or higher. Full table shown in Appendix C.
Q31. What actions have been taken in the past two years to reduce energy usage at this facility?

Most facilities indicate they have observed energy savings resulting from the steps they took to reduce energy usage (80 percent), with nearly all large companies seeing some savings (96 percent). Nearly three-quarters (73 percent) of large companies received technical assistance versus just 33 percent of smaller companies. (Figure 19)

Figure 19: Energy Reduction Actions



*Small base size (<30) interpret results with caution.
Q32. Has your facility observed energy savings resulting from any of these actions?
Q33. Did your facility receive technical assistance for any of these actions?

Thirteen percent (13 percent) of all Northwest food processing facilities received assistance from NEEA, all among companies with 250 or more employees. Nearly two in ten (18 percent) received assistance from an equipment distributor. (Table 14)

Table 14. Who Provided Technical Assistance for Energy Usage Reduction

	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Equipment distributor	18%	23%	13%	-	33%	-	67%	18%	20%
NEEA (Northwest Energy Efficiency Alliance)	13%	-	31%	22%	-	27%	-	18%	-
A utility company (general)	13%	14%	13%	22%	7%	18%	-	11%	20%
Contractor	13%	18%	6%	-	20%	9%	33%	11%	20%
ETO (Energy Trust of Oregon)	11%	9%	13%	44%	-	-	-	14%	-
Idaho Power	8%	-	19%	-	-	27%	-	7%	10%
Base (n)	***38***	***22****	***16****	***9****	***15****	***11****	***3****	***28****	***10****

*Small base size (<30) interpret results with caution.
Table includes total responses of 8 percent or higher. Full table shown in Appendix C.
Q34. Who provided the technical assistance for these actions?

Detailed Findings – Beverage Manufacturing

Beverage Manufacturing Facility/Company Profiles

Four in ten (41 percent) Beverage Manufacturing customers are located in Washington, while 11 percent are located in Idaho. Two-thirds (67 percent) of Beverage Manufacturing customers are at the non-executive level.

None of the surveyed Beverage Manufacturers are ISO-9000 or 14000 certified, though 37 percent indicate they practice LEAN manufacturing. Four percent (four percent) of Beverage Manufacturing customers indicate they belong to the Northwest Food Processors Association. Nearly six in ten (59 percent) do not belong to any industry associations. (Table 15)

Table 15. 2011 Beverage Manufacturing Respondent Profile

	Beverage Manufacturing
State	
Washington	41%
Oregon	26%
Idaho	11%
Montana	22%
Geography	
Urban	85%
Rural	15%
Job Title	
Executive	33%
Non-Executive	67%
Number of Employees	
Less than 10	44%
11-40	30%
41 or more	26%
Energy Costs as Proportion of Operating Costs	
Less than 1%	7%
1% to less than 5%	11%
5% to less than 10%	37%
10% to less than 20%	11%
More than 20%	11%
Don't know/Prefer not to answer	22%
Revenue	
Under $100,000	11%
$100,000 to less than $250,000	7%
$250,000 to less than $500,000	15%
$500,000 to less than $1 million	15%
$1 million to less than $5 million	26%
$5 million to less than $10 million	4%
$10 million or more	7%
Don't know/Prefer not to answer	15%
Base (n)	***27****

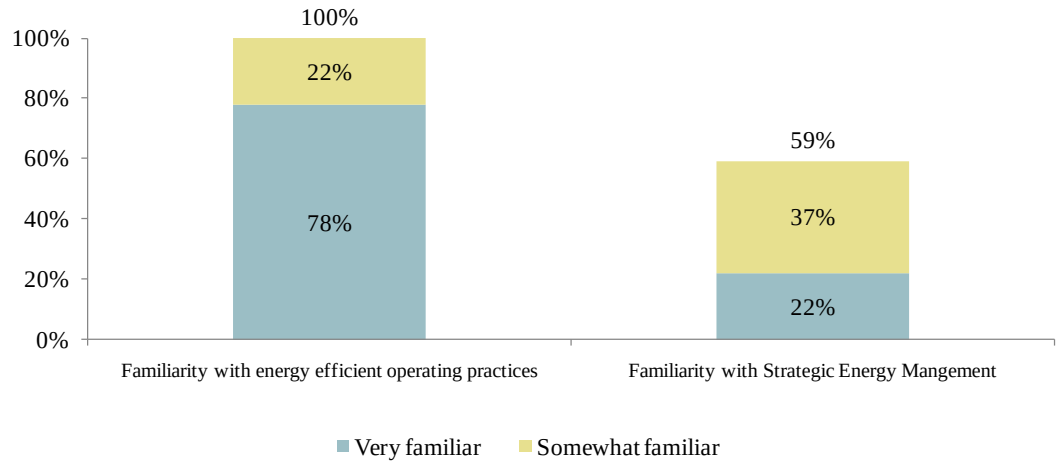
Table 15 (cont'd). 2011 Beverage Manufacturing Respondent Profile	
	Beverage Manufacturing
ISO-9000 Certification (Quality Management)	
Yes	0%
No	78%
ISO-14000 Certification (Environmental Management)	
Yes	0%
No	78%
LEAN Manufacturing	
Yes	37%
No	44%
Industry Associations	
Wine association	18%
Brewing association	7%
Restaurant association	4%
Northwest Food Processors Association	4%
Other Industry Association	4%
None	59%
Base (n)	***27****

*Small base size (<30) interpret results with caution.
SC2. What is your job title?
SC7. In total, about how many employees does your company currently have across all its sites and locations combined?
F4. About what proportion of your total operating costs for this facility (not including labor costs) would you say are accounted for by your total energy costs?
F8. Approximately what were the TOTAL REVENUES for your company in 2010?
Q47. Is this facility ISO-9000 certified for quality management?
Q48. Is this facility ISO-14000 certified for environmental management?
Q49. Does this facility practice Lean manufacturing?
Q51. Does your company belong to any of the following industry associations?

Familiarity with Energy Efficiency and SEM

Familiarity with energy efficient operating practices is universal among the beverage manufacturing facilities (100 percent). However, only 59 percent are familiar with SEM specifically. (Figure 20)

Figure 20. Familiarity with Energy Efficiency Practices and Strategic Energy Management (n=27*)



*Small base size (<30) interpret results with caution.
Q2. How familiar is this facility with energy efficient operating practices, such as turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc.? Are you...
Q3. Strategic Energy Management, or S-E-M, is a system of practices that leads to reliable and persistent energy savings. At a minimum, these practices include setting a goal related to energy, dedication of resources by top leadership to achieve the goal, ensuring staff regularly reports progress toward the goal to top management. How familiar are you with Strategic Energy Management practices?

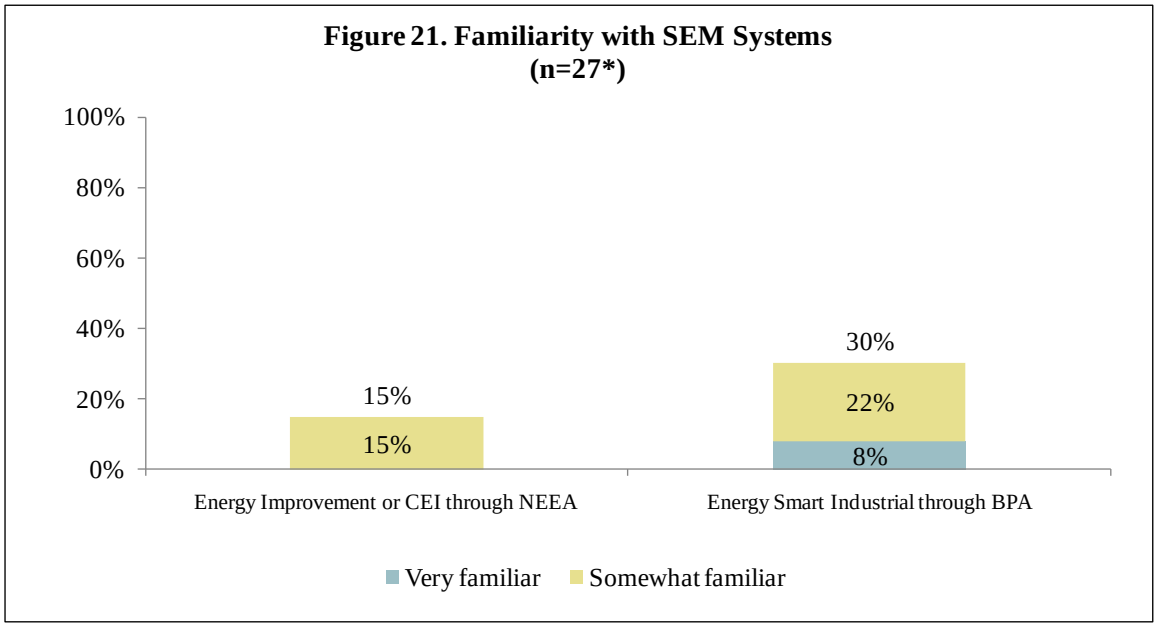
One-third (32 percent) of beverage manufacturing respondents learned about energy efficiency practices through a previous employer or from previous actions. One-quarter (26 percent) learned through newsletters or other publications. (Table 16)

Table 16. How Learned about Strategic Energy Management

	Total Beverage Manufacturing
Self-awareness/Always done this/Previous employer	32%
Newsletters/magazines/Newspaper/TV/General media	26%
A utility company (general)	11%
Engineer/Architect	11%
Idaho Power	5%
Base (n)	***19****

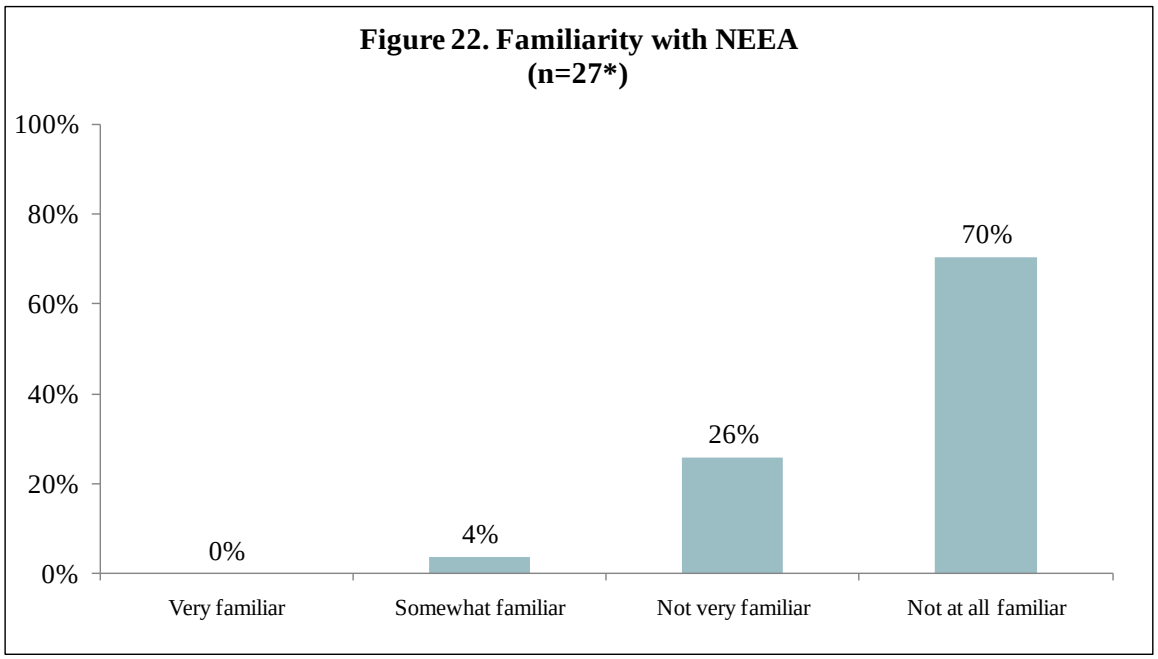
*Small base size (<30) interpret results with caution.
Q3A. How did you first learn about strategic energy management practices?

Fewer than one in seven (15 percent) of respondents are somewhat familiar with Continuous Energy Improvement through NEEA, while none are very familiar. Twice as many (30 percent) are familiar with Energy Smart Industrial through BPA. (Figure 21)



*Small base size (<30) interpret results with caution.
Q4-5. For each of the energy management systems I name, please tell me whether you are very familiar, somewhat familiar, not very familiar, or not at all familiar with the program. How familiar are you with...

No beverage manufacturing facilities are very familiar with NEEA and its initiatives, while a few (four percent) are somewhat familiar. Most (70 percent) say they are not at all familiar. (Figure 22)



*Small base size (<30) interpret results with caution.
Q52. How familiar are you with NEEA and its initiatives? Would you say that you are...

Top three concerns / Importance of Energy Management Practices

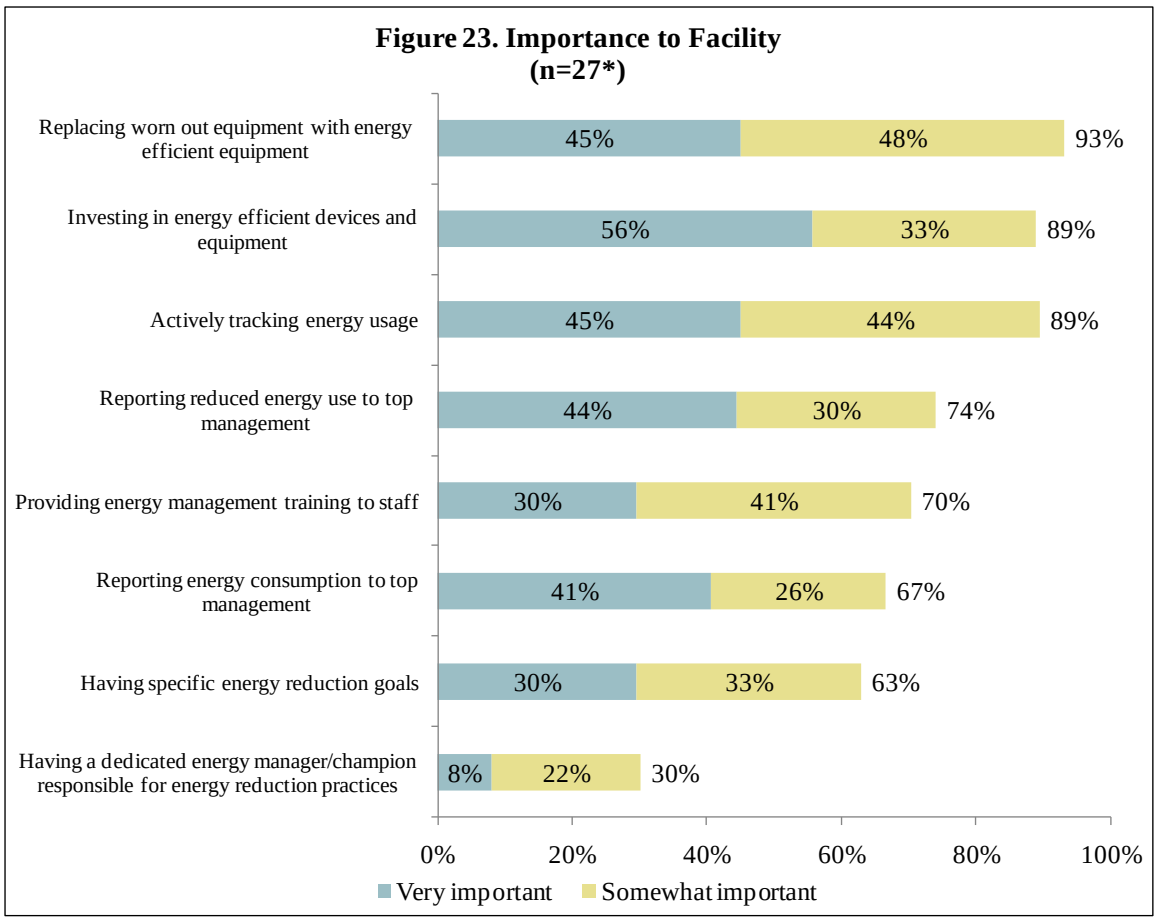
When asked about the top concerns for their facility, 26 percent of beverage manufacturers say they are worried about the *Profitability* of their business, while 22 percent say the biggest concern is *Quality production.* (Table 17)

Table 17. Top Three Facility Concerns

	Total Beverage Manufacturing
Profitability	26%
Quality production	22%
Operational efficiency	15%
Longevity/Viability/Sustainability	11%
Employee retention/quality	11%
Operational costs (rent/machinery/materials/labor)	11%
Safety	7%
Maintenance	7%
Customer service	7%
No/None/Not any/Nothing	11%
Don't know	15%
Base (n)	***27****

*Small base size (<30) interpret results with caution.
Verbatim responses for this open-end question are shown in Appendix E.
Q1. What are your company's top three concerns for this facility?

Respondents were asked a series of questions about the importance of eight energy management practices. Approximately nine in ten (89 to 93 percent) say that *Replacing worn out equipment with energy efficient equipment, Investing in energy efficient devices and equipment,* and *Actively tracking energy usage* is important. Only 30 percent feel that *Having a dedicated energy manager/champion responsible for energy reduction practices* is important. (Figure 23)



*Small base size (<30) interpret results with caution.
Q7-13. For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company. How important is...

Implementation of SEM, Elements of SEM

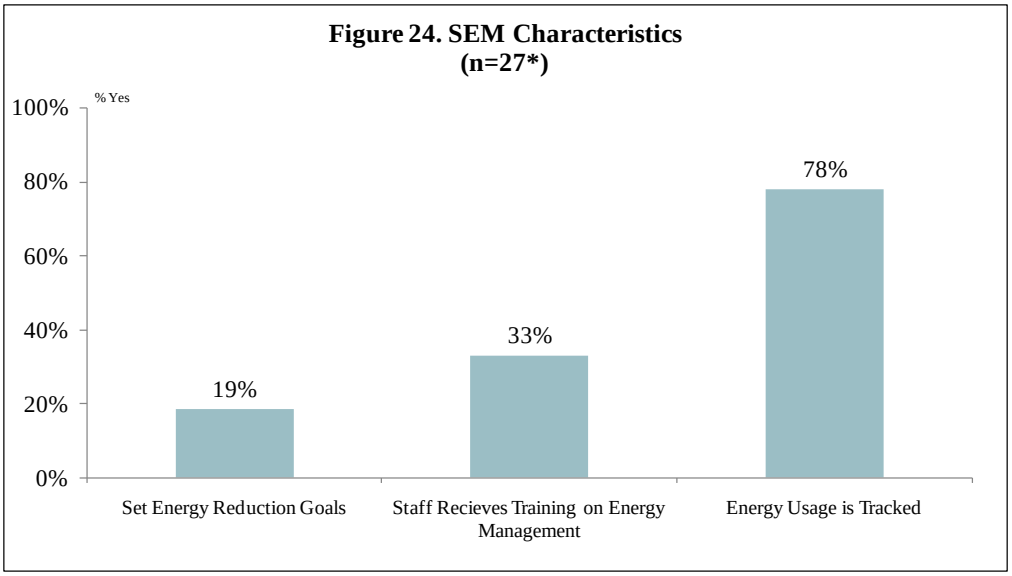
Four percent of beverage manufacturers meet SEM criteria as shown below. As with smaller food processors, a major barrier to full SEM implementation among beverage manufacturers appears to be dedicating resources to energy reduction. (Table 18)

Table 18: Meets SEM Criteria

	Total Beverage Manufacturing
Have set energy reduction goals	19%
Dedicated resources to energy reduction (dedicated energy champion, staff trained in energy reduction, and investment in EE equipment)	4%
Regularly report progress toward goal to top leadership	19%
Meet SEM criteria (conduct all three activities above)	**4%**
Base (n)	***27****

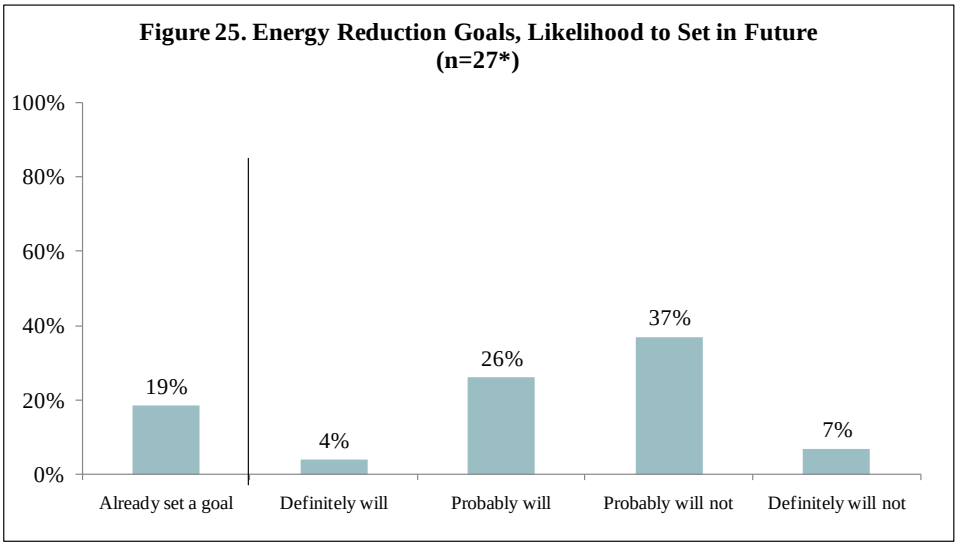
*Small base size (<30) interpret results with caution.

Nearly eight in ten (78 percent) beverage manufacturers track their energy usage, while one-third (33 percent) provide staff with energy management training. Fewer than one in five (19 percent) set energy reduction goals. (Figure 24)



*Small base size (<30) interpret results with caution.
Q14. Does your company set energy reduction goals for this facility?
Q23. Does staff at your facility receive training on energy management?
Q25. Is energy usage regularly tracked at this facility?

Beyond the 19 percent that have already set goals, only four percent of customers say that they "definitely will" set a reduction goal in the next two years. (Figure 25)



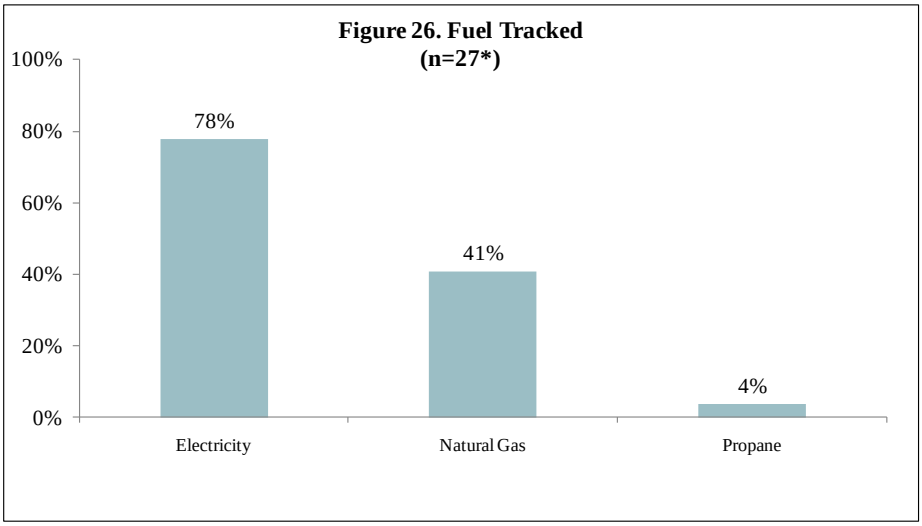
*Small base size (<30) interpret results with caution.
Q14. Does your company set energy reduction goals for this facility?
Q14A. Will your facility definitely, probably, probably not, or definitely not set energy reduction goals for this facility within the next two years?

Among the five respondents who have set an energy reduction goal, three say it is a reduction in overall electricity usage, while one says it is a reduction in energy intensity (the remaining customer does not know). Two respondents say their reduction goal is less than five percent, one says it is between 10 to 15 percent, while the remaining respondents says it is 21 percent or more.

Two respondents say their energy reduction goals were set less than one year ago, one says it was 1 to 2 years ago, while two set their goals over four years ago.

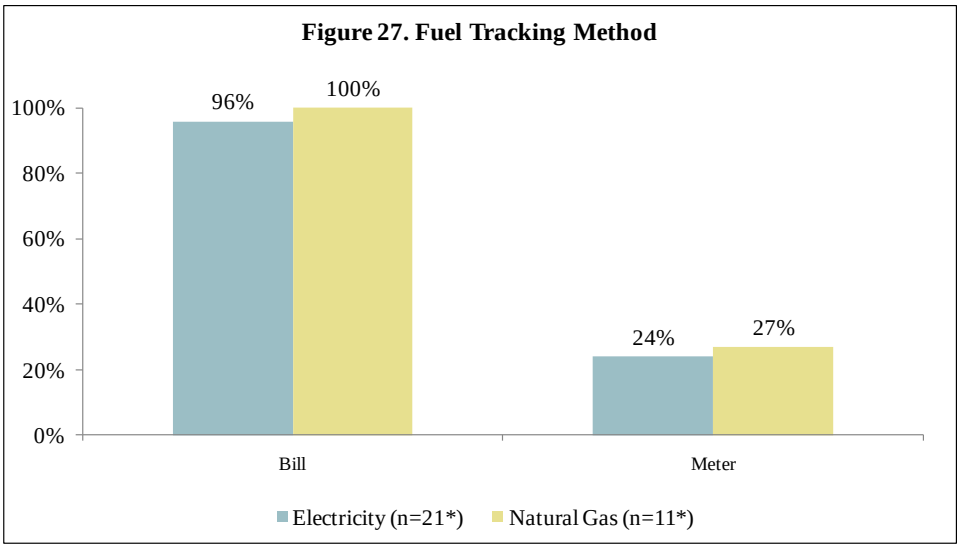
All five beverage manufacturing customers who set energy reduction goals say that management support is "very supportive." However, only one of the beverage manufacturers who set energy reduction goals has a full-time employee or designated energy champion dedicated to implementing these reduction goals.

Seventy-eight percent of beverage manufacturing respondents monitor electricity, while 41 percent monitor natural gas and 4 percent monitor propane. (Figure 26)



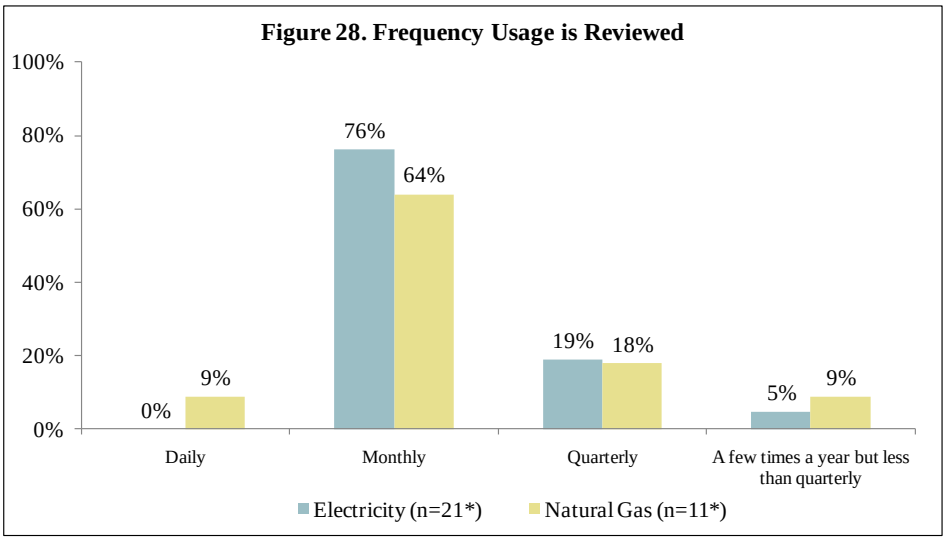
*Small base size (<30) interpret results with caution.
Q26. Does this facility track the usage of electricity, natural gas, or both?

Almost all beverage manufacturers that monitor fuel usage (95 to 100 percent) say they track electricity and natural gas through their bill, while about one-quarter (24 to 27 percent) track fuel using the meter. Ten percent (10 percent) of those who track electricity and 18 percent of those who track natural gas use both the bill and the meter to track fuel. (Figure 27)



*Small base size (<30) interpret results with caution.
Q27. Is electricity usage tracked via the bill, the meter, or some other way?

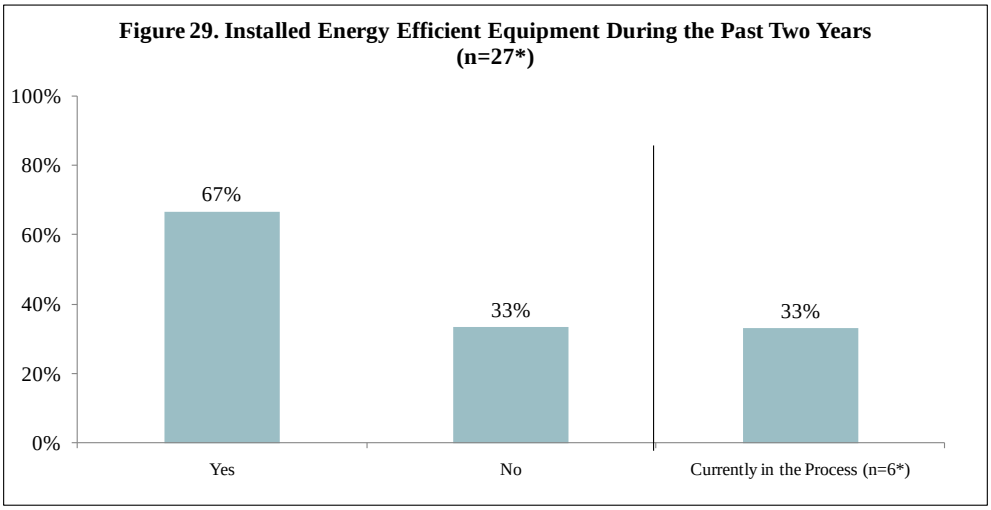
Of the beverage manufacturers that track fuel, most track their natural gas and electricity usage on a monthly basis (64 percent-76 percent), while about one-quarter (24 percent-27 percent) track usage on a quarterly or less frequent basis. (Figure 28)



*Small base size (<30) interpret results with caution.
Q28. How often is the tracked information for electricity usage typically reviewed?
Q30. How often is the tracked information for natural gas usage typically reviewed?

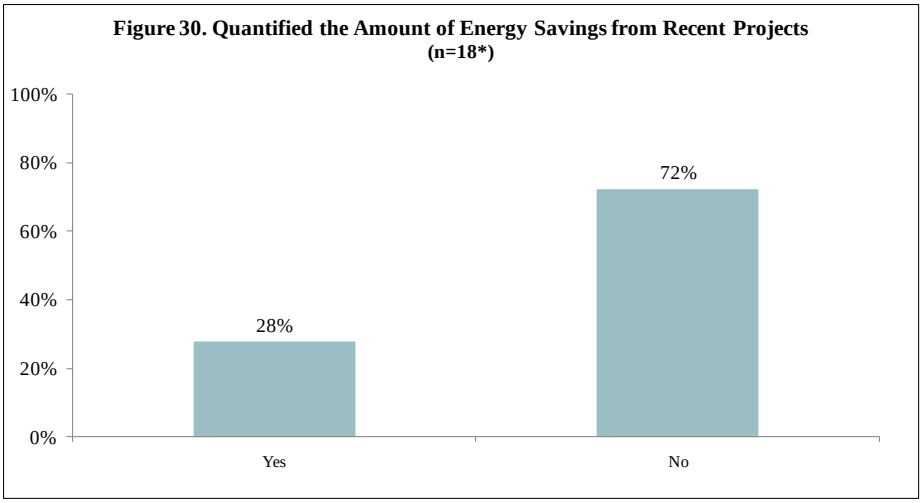
Capital Improvements – EE equipment Installed / Being Installed

Two-thirds (67 percent) of customers have installed energy efficient equipment during the past two years, and one-third (33 percent) say they are currently in the process of doing this. (Figure 29)



*Small base size (<30) interpret results with caution.
Q36. Has your facility installed energy efficient equipment during the past two years?
Q37. Is your facility currently in the process of installing energy efficient equipment?

Fewer than three in ten (28 percent) of customers who have installed energy efficient equipment in the past two years have quantified the energy savings.
(Figure 30)



*Small base size (<30) interpret results with caution.
Q39. Has your facility specifically quantified the amount of energy savings from these projects?

Nearly eight in ten (78 percent) of those who installed energy efficient equipment say that energy and money savings are a motivating factor, while one-third (33 percent) cite tax incentives or rebates. (Table 19)

Table 19. Motivating Factors to Install Energy Efficient Equipment

	Total Beverage Manufacturing
Save energy and money	78%
Tax incentives or rebates	33%
Recommended in an energy audit	11%
Environmental stewardship	11%
To save money	11%
Other	6%
Base (n)	***18****

*Small base size (<30) interpret results with caution.
Q40. What factors motivated your facility to install energy efficient equipment?

Four in ten (39 percent) did not receive a financial incentive for installing energy efficient equipment, while 28 percent received a tax credit from the state and 22 percent received a rebate or incentive from a utility or other entity. (Table 20)

Table 20. Incentives Received for Installing Energy Efficient Equipment

	Total Beverage Manufacturing
State tax credit	28%
Rebate or incentive from a utility, other organization or institution	22%
Federal tax credit	17%
Or something else	6%
None	39%
Don't know	11%
Base (n)	***18****

*Small base size (<30) interpret results with caution.
Q41. Which of the following financial incentives, if any, did your company receive for installing energy efficient equipment at this facility?

Fifteen percent (15 percent) of beverage manufacturing facilities have a policy in place that mandates replacement of worn out equipment with high-efficiency equipment. Eight in ten (78 percent) are aware of energy efficient equipment for the type of work done at their facility. Of those that are aware of efficient equipment, two-thirds (67 percent) have been aware for more than four years. More than one-fifth (22 percent) of beverage manufacturers state that energy efficient equipment is always emphasized by equipment dealers. (Table 21)

Table 21. Energy Efficiency Replacement Policy and Awareness

	Total Beverage Manufacturing
Equipment replacement policy with high-efficient equipment	
Yes	15%
No	85%
Aware of efficient equipment for type of work	
Yes	78%
No	22%
Length of time aware of energy efficient equipment (if Q44=Yes, n=21)	
1 to less than 3 years ago	9%
3 to less than 4 years ago	24%
More than 4 years ago	67%
Energy efficiency emphasized by equipment dealers	
Always	22%
Sometimes	52%
Never	15%
Don't Know/Refused	11%
Base (n)	***27****

*Small base size (<30) interpret results with caution.
Q43. Does your facility have a specific policy that says you should replace worn out equipment with "high efficiency" equipment – that is, equipment that is more efficient than what is considered standard efficiency or code at the time of purchase?
Q44. Is your company aware of energy efficient equipment for the type of work done at this facility?
Q45. Has your company been aware of energy efficient equipment for the type of work done at this facility for…?
Q46. Do your equipment dealers emphasize energy efficiency when explaining your equipment options…?

Operations and Maintenance Activities

The action most often taken during the past two years to reduce energy usage among beverage manufacturers is simply turning off the lights (41 percent) or equipment (33 percent) when not in use. Almost all have taken at least some action (89 percent), with only seven percent saying that no actions have been taken to reduce usage in the past two years. Of these two customers who did not take any energy reducing actions in the past two years, one could provide a reason why the facility has not taken any actions: low energy costs and local wood. (Table 22)

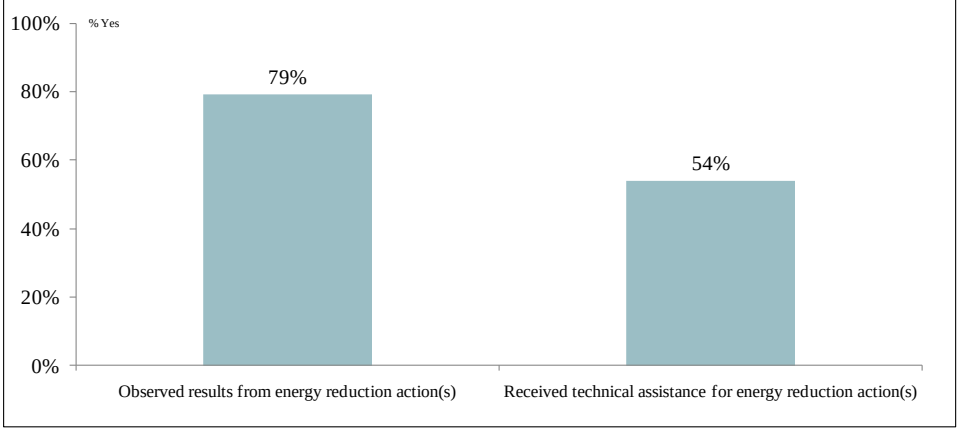
Table 22. Actions Taken in the Past Two Years to Reduce Energy Usage

	Total Beverage Manufacturing
Lighting reduction, turning lights off when not in use	41%
Equipment operation schedule or turning equipment off when not in use	33%
Equipment Operations and Maintenance	26%
Equipment settings (decreasing temperature, pressure, motor speed)	22%
Insulate pipes or tanks	19%
Upgraded equipment	15%
Upgraded lighting	11%
Leak tag program / leak detection and repair (check for air leaks.)	7%
Removing equipment	7%
Production floor cleaning practices	4%
General conservation/awareness	4%
Provided employee education	4%
Changed heater/furnace	4%
Something else	7%
No actions taken in the past two years	7%
Don't know	4%
Base (n)	***27****

*Small base size (<30) interpret results with caution.
Q31. What actions have been taken in the past two years to reduce energy usage at this facility?

Among the customers who took at least some energy saving action, 79 percent observed results from that action. Over half (54 percent) received technical assistance with the energy reduction action taken. (Figure 31)

Figure 31. Energy Reduction Actions
(n=24*)



*Small base size (<30) interpret results with caution.
Q32. Has your facility observed energy savings resulting from any of these actions?
Q33. Did your facility receive technical assistance for any of these actions?

Among beverage manufacturers who received technical assistance for their energy reduction action, 15 percent had a contractor assist, while the same proportion had the supplier assist. Eight percent (8 percent) report that NEEA provided assistance. (Table 23)

Table 23. Provider of Technical Assistance for Energy Usage Reduction

	Total Beverage Manufacturing
NEEA (Northwest Energy Efficiency Alliance)	8%
Equipment distributor	8%
A utility company (general)	8%
Contractor	15%
Consultant	8%
Engineer/Architect	8%
Idaho Power	8%
Puget Sound Energy	8%
An energy efficiency company	8%
A supplier	15%
Don't know	8%
Base (n)	***13****

*Small base size (<30) interpret results with caution.
Q34. Who provided the technical assistance for these actions?

Conclusions

NEEA's efforts among large food processors (250 or more employees) have clearly resonated as awareness of SEM and CEI are high among energy decision-makers in this segment. One-third (33 percent) of these facilities indicate that they are meeting all three criteria required to be defined as implementing SEM. NEEA is credited by many of these for influencing their decision to implement energy reduction goals and dedicate resources and take actions to achieve those goals.

Among smaller food processing company facilities (fewer than 250 employees) and beverage manufacturing facilities (most of which are small organizations), awareness of energy efficiency practices and a desire to control energy costs are high. However, the proportion of smaller facilities that deem specific elements of energy management as highly important to them remains middling at best, particularly compared to large organizations.

While these facilities appear to embrace energy efficiency and regularly track their energy usage and costs, they seem somewhat less inclined to formalize an energy management process with key elements of SEM such as setting specific energy reduction goals, designating individuals to serve as energy champions, and providing training to staff about energy reduction. This may be due in part to a lack of focus on formalizing the energy management process within a small organization due to either lack of internal resources or not recognizing energy management as a priority beyond the mantra to control costs.

Recommendations

There appears to be strong potential to migrate smaller food processing and beverage manufacturing facilities toward an SEM system.

To expand on the progress achieved over the past several years among large food processing companies to their smaller food processing and beverage manufacturing counterparts, NEEA should work with its partners to demonstrate the beneficial outcomes of a systematic approach to energy management in terms of cost savings and enhanced profitability beyond that of less managed attempts to reduce energy usage and costs.

Most of these organizations may lack the resources and band-with to focus on the establishment of an SEM system. Therefore, NEEA and its partners should also provide significant direction and support regarding how to implement the various elements of SEM within a smaller operation, most of which are very small in comparison to the large facilities that have been the focus of the past several years.

Also, among smaller food processing and beverage manufacturing companies, there may be a need to recalibrate or redefine some SEM criteria to better fit their organizational and operational constraints. While energy reduction goal setting is a relatively straightforward concept, NEEA may need to define the "dedication of resources" to energy reduction in terms that are more feasible, or in a way that is a better fit for small organizations – at least in terms of how these criteria are measured when quantifying progress of SEM in the marketplace.

Appendices

Appendix A: Facility Profiles

Appendix Table 1. 2011 Food Processing Respondent Profile					
	Food Processing	Number of Employees		Geography[2]	
		<250 Employees	250+ Employees	Urban	Rural
State					
Washington	35%	37%	29%	44%	14%
Oregon	28%	31%	21%	30%	24%
Idaho	20%	12%	46%	16%	31%
Montana	16%	20%	4%	10%	31%
Geography					
Urban	71%	68%	79%	100%	-
Rural	29%	32%	21%	-	100%
Job Title					
Executive	46%	61%	-	39%	66%
Non-Executive	52%	36%	100%	59%	34%
Number of Employees					
20 or fewer	46%	60%	-	41%	55%
21 to 50	18%	24%	-	19%	17%
51 to 100	5%	7%	-	4%	7%
101 to 249	7%	9%	-	9%	3%
Less than 250	76%	100%	-	73%	83%
250 or more	24%	-	100%	27%	17%
Energy Costs as Proportion of Operating Costs					
Less than 1%	7%	7%	8%	7%	7%
1% to less than 5%	21%	24%	12%	24%	14%
5% to less than 10%	22%	21%	25%	21%	24%
10% to less than 20%	21%	21%	21%	17%	31%
More than 20%	13%	11%	21%	13%	14%
Don't know/Prefer not to answer	15%	16%	13%	17%	10%
Revenue					
Under $100,000	13%	17%	-	10%	21%
$100,000 to less than $250,000	12%	16%	-	9%	21%
$250,000 to less than $500,000	7%	9%	-	9%	3%
$500,000 to less than $1 million	10%	13%	-	11%	7%
$1 million to less than $5 million	13%	17%	-	13%	14%
$5 million to less than $10 million	5%	4%	8%	4%	7%
$10 million or more	16%	11%	33%	14%	21%
Don't know/Prefer not to answer	23%	12%	58%	30%	7%
ISO-9000 Certification (Quality Management)					
Yes	6%	7%	4%	6%	7%
No	75%	77%	67%	80%	62%
ISO-14000 Certification (Environmental Management)					
Yes	5%	3%	12%	4%	7%
No	72%	76%	58%	74%	66%
LEAN Manufacturing					

Yes	43%	39%	58%	43%	45%
No	44%	47%	38%	47%	38%
Industry Associations					
Northwest Food Processors Association	22%	13%	50%	27%	10%
Other Industry Association	23%	26%	12%	24%	21%
None	52%	60%	25%	47%	62%
Base (n)	***99***	***75***	***24***	***70***	***29****

*Small base size (<30) interpret results with caution.
**Full table shown in Appendix C.
SC2. What is your job title?
SC7. In total, about how many employees does your company currently have across all its sites and locations combined?
F4. About what proportion of your total operating costs for this facility (not including labor costs) would you say are accounted for by your total energy costs?
F8. Approximately what were the TOTAL REVENUES for your company in 2010?
Q47. Is this facility ISO-9000 certified for quality management?
Q48. Is this facility ISO-14000 certified for environmental management?
Q49. Does this facility practice Lean manufacturing?
Q51. Does your company belong to any of the following industry associations?
[2] NEEA used the Rural-Urban Continuum Codes (RUCC) developed by the United States Department of Agriculture, which assigns codes ranging from one to nine, based on counties' population size. Further information about the RUCC can be found in www.ers.usda.gov/Briefing/Rurality/RuralUrbCon. NEEA further segments the codes by Urban (codes one to five) and Rural (codes six to nine).

Appendix Table 2. 2011 Beverage Manufacturing Respondent Profile

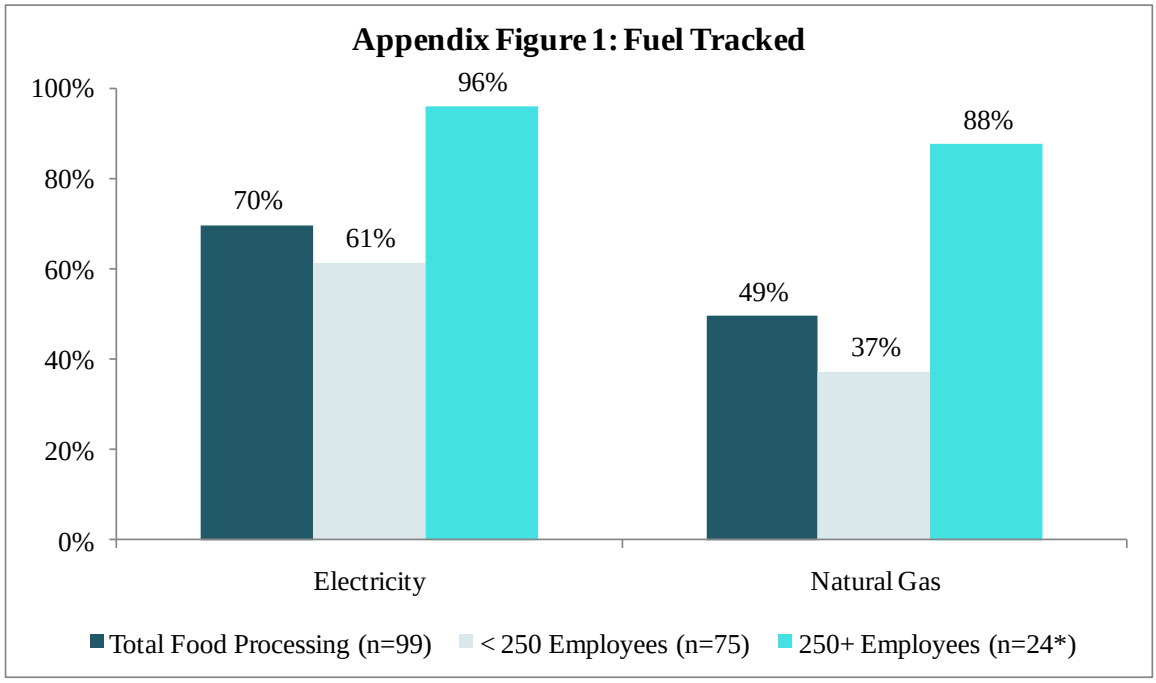
	Beverage Manufacturing
State	
Washington	41%
Oregon	26%
Idaho	11%
Montana	22%
Job Title	
Executive	33%
Non-Executive	67%
Number of Employees	
Less than 10	44%
11-40	30%
41 or more	26%
Energy Costs as Proportion of Operating Costs	
Less than 1%	7%
1% to less than 5%	11%
5% to less than 10%	37%
10% to less than 20%	11%
More than 20%	11%
Don't know/Prefer not to answer	22%
Revenue	
Under $100,000	11%
$100,000 to less than $250,000	7%
$250,000 to less than $500,000	15%
$500,000 to less than $1 million	15%
$1 million to less than $5 million	26%
$5 million to less than $10 million	4%
$10 million or more	7%
Don't know/Prefer not to answer	15%
ISO-9000 Certification (Quality Management)	

Yes	0%
No	78%
ISO-14000 Certification (Environmental Management)	
Yes	0%
No	78%
LEAN Manufacturing	
Yes	37%
No	44%
Industry Associations	
Wine association	18%
Brewing association	7%
Restaurant association	4%
Northwest Food Processors Association	4%
Other Industry Association	4%
None	59%
Base (n)	***27****

*Small base size (<30) interpret results with caution.
SC2. What is your job title?
SC7. In total, about how many employees does your company currently have across all its sites and locations combined?
F4. About what proportion of your total operating costs for this facility (not including labor costs) would you say are accounted for by your total energy costs?
F8. Approximately what were the TOTAL REVENUES for your company in 2010?
Q47. Is this facility ISO-9000 certified for quality management?
Q48. Is this facility ISO-14000 certified for environmental management?
Q49. Does this facility practice Lean manufacturing?
Q51. Does your company belong to any of the following industry associations?

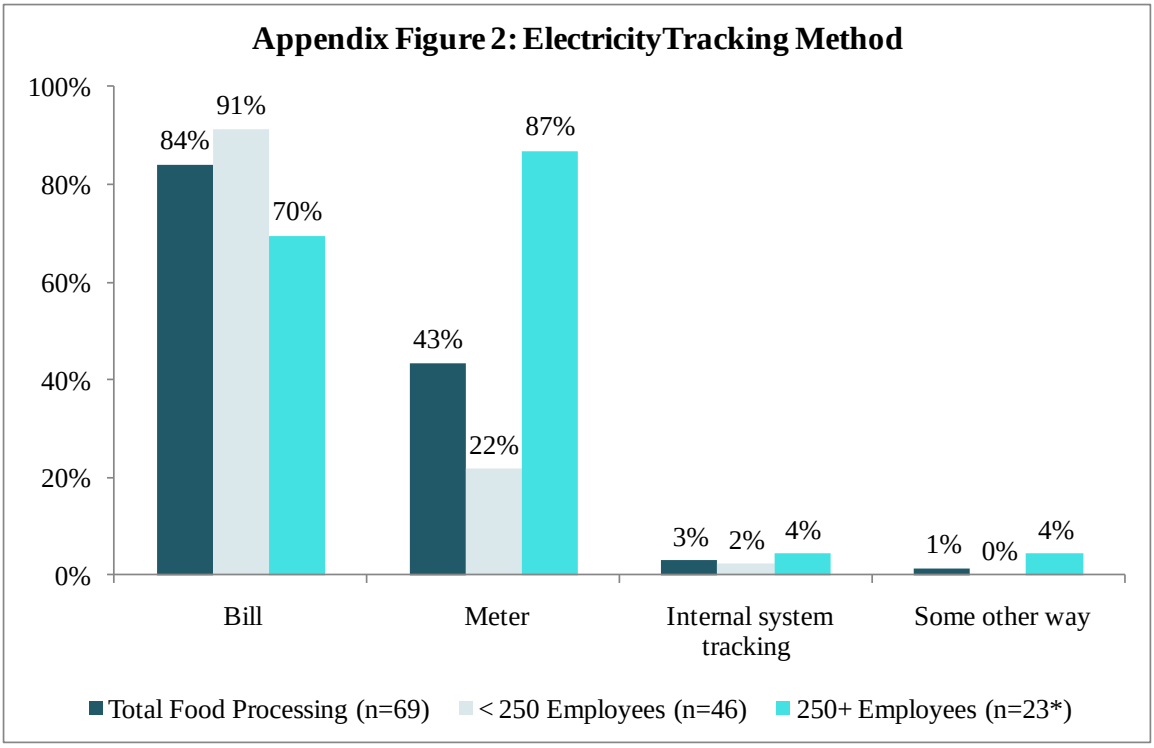
Appendix B: Fuel Tracking Mini-Report

Seven in ten (70 percent) food processors track electricity usage, while about half (49 percent) track natural gas usage. Tracking energy usage is more common among larger sized companies with 250 or more employees. (Appendix Figure 1)



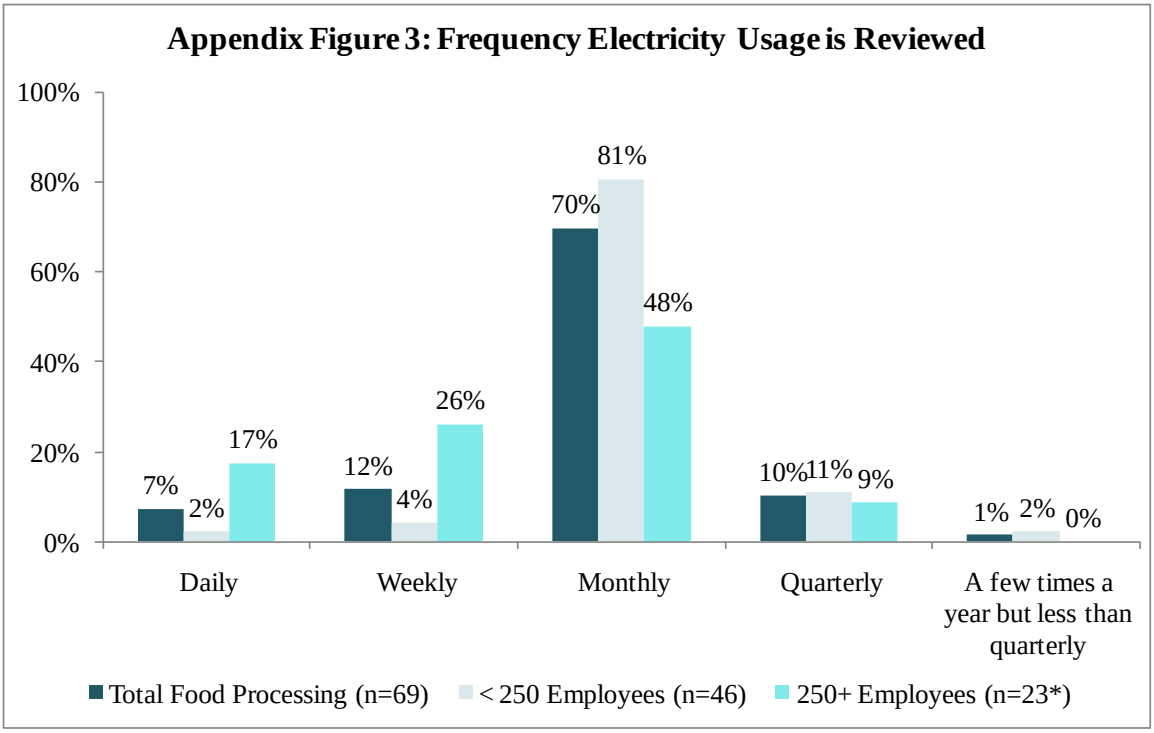
*Small base size (<30) interpret results with caution.
Q26. Does this facility track the usage of electricity, natural gas, or both?

Eighty-four percent (84 percent) of food processing respondents that report tracking electricity usage state that they use the bill for their tracking method compared to 43 percent that state they use the meter for their electricity usage tracking method. Ninety-one percent (91 percent) of companies with less than 250 employees use the bill for an electricity tracking method while 87 percent of companies with more than 250 employees use the meter for an electricity tracking method. (Appendix Figure 2)



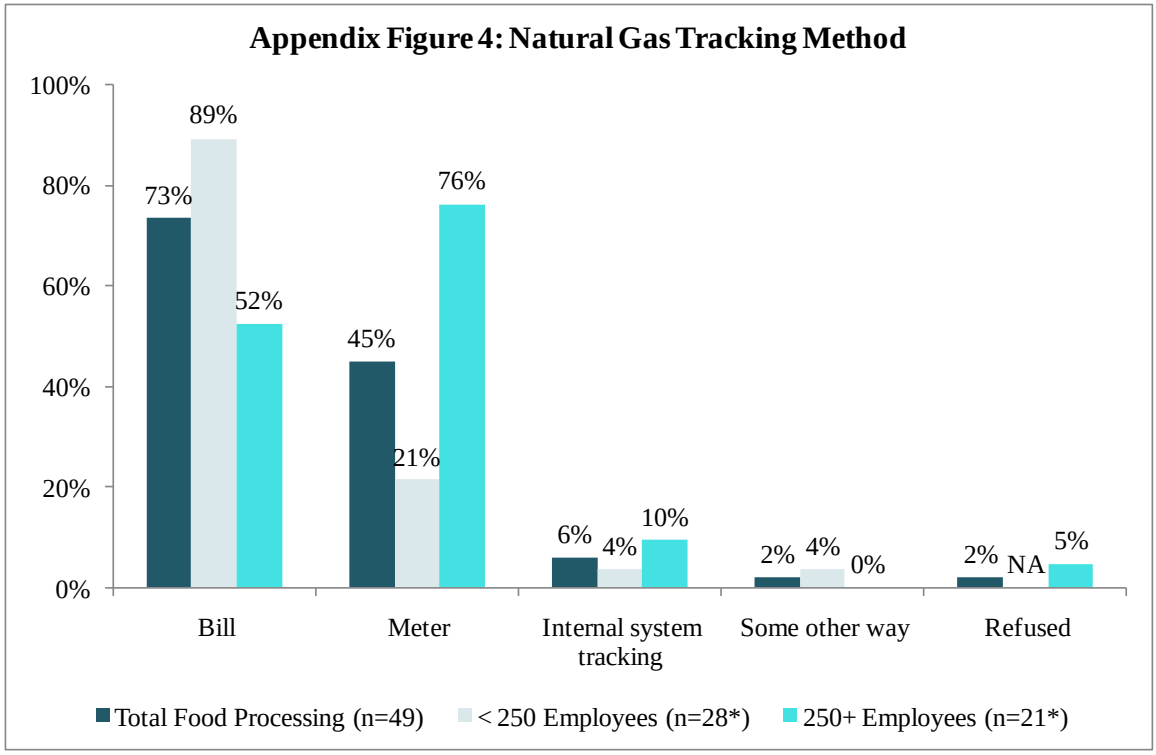
*Small base size (<30) interpret results with caution.
Q27. Is electricity usage tracked via the bill, the meter, or some other way?

Tracked electricity usage is most commonly viewed on a monthly basis for food processing facilities at 70 percent. Eighty-one percent (81 percent) of companies with less than 250 employees view electricity usage monthly compared to 48 percent of facilities with 250 or more employees. (Appendix Figure 3)



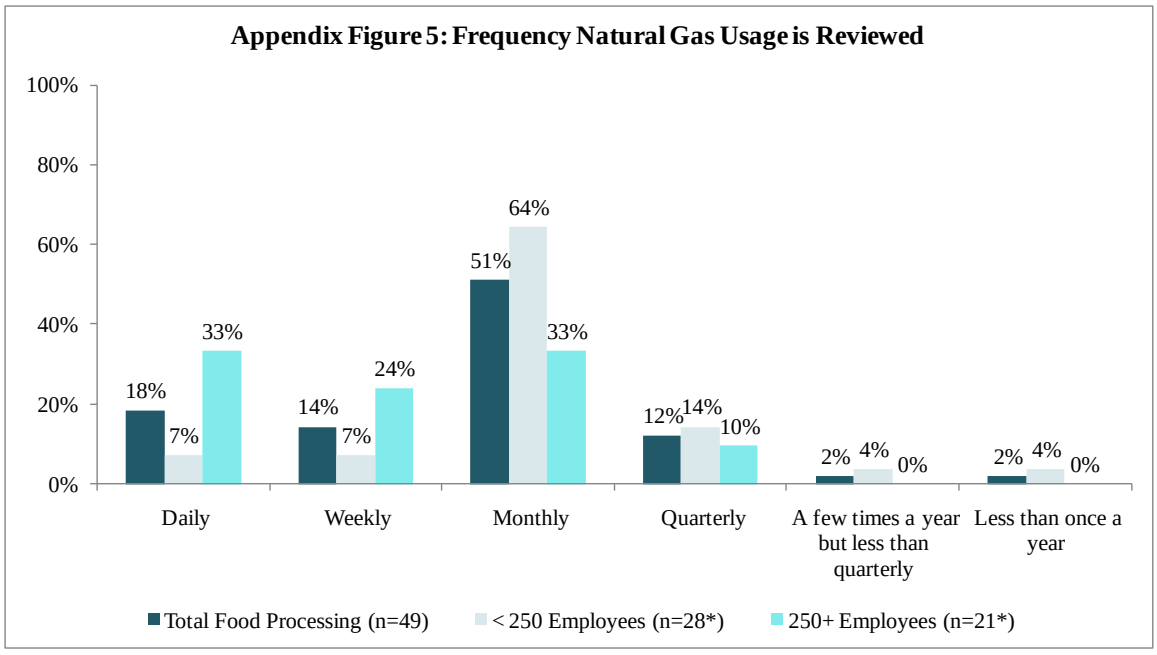
*Small base size (<30) interpret results with caution.
Q28. How often is the tracked information for electricity usage typically reviewed?

Seventy-three percent (73 percent) of food processing respondents that report tracking natural gas usage state that they use the bill for their tracking method compared to 45 percent that state they use the meter for their natural gas usage tracking method. Eighty-nine percent (89 percent) of companies with less than 250 employees use the bill for a natural gas tracking method while 76 percent of companies with more than 250 employees use the meter for a natural gas tracking method. (Appendix Figure 4)



*Small base size (<30) interpret results with caution.
Q29. Is natural gas usage tracked via the bill, the meter, or some other way?

Tracked natural gas usage is most commonly viewed on a monthly basis for food processing facilities at 51 percent. Sixty-four percent (64 percent) of companies with less than 250 employees view natural gas usage monthly compared to one-third (33 percent) of companies with 250 or more employees. (Appendix Figure 5)



*Small base size (<30) interpret results with caution.
Q30. How often is the tracked information for natural gas usage typically reviewed?

Appendix C: Additional Tables

Appendix Table 3. How Learned about Strategic Energy Management									
	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Self-awareness/Always done this/Previous employer	21%	18%	27%	16%	26%	21%	18%	20%	25%
A utility company (general)	9%	8%	9%	11%	7%	14%	-	8%	10%
Newsletters/Magazines/Newspaper/TV/General media	6%	6%	5%	11%	4%	-	9%	8%	-
An educational facility	6%	8%	-	-	7%	-	18%	8%	-
NEEA (Northwest Energy Efficiency Alliance)	4%	-	14%	-	4%	14%	-	4%	5%
Word of mouth	4%	6%	-	11%	-	-	9%	4%	5%
ETO (Energy Trust of Oregon)	4%	6%	-	16%	-	-	-	6%	-
Contractor	3%	4%	-	-	4%	7%	-	2%	5%
Idaho Power	3%	-	9%	-	-	14%	-	2%	5%
Workshops/educational seminars	3%	2%	5%	5%	4%	-	-	2%	5%
Employer	3%	-	9%	-	4%	7%	-	2%	5%
This survey	1%	2%	-	-	-	-	9%	-	5%
NWFPA (Northwest Food Processors Association)	1%	2%	-	-	4%	-	-	2%	-
Internet	1%	2%	-	5%	-	-	-	2%	-
BPA (Bonneville Power Authority)	1%	2%	-	5%	-	-	-	-	5%
Pacific Power	1%	-	5%	5%	-	-	-	2%	-
Consultant	1%	2%	-	-	4%	-	-	2%	-
Public Utility District (PUD)	1%	2%	-	-	4%	-	-	-	5%
An energy efficiency company	1%	-	5%	-	-	7%	-	2%	-
A supplier	1%	2%	-	-	4%	-	-	2%	-
Other	6%	6%	5%	-	4%	14%	9%	4%	10%
Don't Know	20%	20%	18%	21%	22%	7%	27%	22%	15%
Refused	1%	2%	-	-	4%	-	-	2%	-
Base (n)	***71***	***49***	***22****	***19****	***27****	***14****	***11****	***51***	***20****

*Small base size (<30) interpret results with caution.
Q3A. How did you first learn about strategic energy management practices?

Appendix Table 4. Actions Taken in the Past Two Years to Reduce Energy Usage				
	Total Food	Number of Employees	State	Geography

	Processing	<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Lighting reduction, turning lights off when not in use	58%	56%	63%	39%	71%	55%	63%	63%	45%
Equipment Operations and Maintenance	37%	37%	38%	32%	34%	50%	38%	40%	31%
Equipment operation schedule or turning equipment off when not in use	27%	27%	29%	21%	17%	45%	38%	27%	28%
Equipment settings (decreasing temperature, pressure, motor speed)	24%	24%	25%	25%	17%	30%	31%	21%	31%
Insulate pipes or tanks	15%	15%	17%	14%	17%	10%	19%	19%	7%
Removing equipment	11%	11%	13%	14%	14%	5%	6%	11%	10%
Leak tag program / leak detection and repair (check for air leaks.)	10%	8%	17%	7%	9%	10%	19%	11%	7%
Upgraded equipment	8%	8%	8%	18%	-	5%	13%	11%	-
Upgraded lighting	8%	7%	13%	11%	11%	5%	-	9%	7%
General conservation/ awareness	5%	4%	8%	4%	6%	10%	-	4%	7%
Weatherizing	3%	4%	-	-	3%	-	13%	1%	7%
Production floor cleaning practices	3%	4%	-	-	3%	-	13%	3%	3%
Changed heater/furnace	2%	1%	4%	-	-	10%	-	1%	3%
Close/replace doors	1%	1%	-	-	-	-	6%	-	3%
Monitor usage	1%	1%	-	-	3%	-	-	1%	-
Provided employee education	1%	-	4%	-	-	5%	-	-	3%
Control our water usage	1%	-	4%	4%	-	-	-	1%	-
Other	16%	13%	25%	18%	9%	25%	19%	16%	17%
No actions taken	8%	9%	4%	11%	11%	5%	-	7%	10%
Don't Know	2%	1%	4%	4%	3%	-	-	3%	-
Base (n)	***99***	***75***	***24***	***28****	***35***	***20****	***16****	***70***	***29****

*Small base size (<30) interpret results with caution.

Q31. What actions have been taken in the past two years to reduce energy usage at this facility?

Appendix Table 5. Who Provided Technical Assistance for Energy Usage Reduction				
	Total Food	Number of Employees	State	Geography

	Processing	<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Equipment distributor	18%	23%	13%	-	33%	-	67%	18%	20%
NEEA (Northwest Energy Efficiency Alliance)	13%	-	31%	22%	-	27%	-	18%	-
A utility company (general)	13%	14%	13%	22%	7%	18%	-	11%	20%
Contractor	13%	18%	6%	-	20%	9%	33%	11%	20%
ETO (Energy Trust of Oregon)	11%	9%	13%	44%	-	-	-	14%	-
Idaho Power	8%	-	19%	-	-	27%	-	7%	10%
NWFPA (Northwest Food Processors Association)	5%	-	13%	-	-	18%	-	7%	-
BPA (Bonneville Power Authority)	5%	-	13%	-	7%	9%	-	7%	-
DOE (U.S. Department of Energy)	5%	-	13%	-	-	18%	-	7%	-
An educational facility	5%	5%	6%	11%	7%	-	-	7%	-
Public Utility District (PUD)	5%	9%	-	-	13%	-	-	7%	-
Environmental groups (general)	5%	5%	6%	-	7%	9%	-	7%	-
A supplier	5%	9%	-	11%	-	9%	-	4%	10%
Puget Sound Energy	3%	5%	-	-	7%	-	-	4%	-
Word of mouth	3%	5%	-	11%	-	-	-	4%	-
Self-awareness/Always done this/Previous	3%	-	6%	-	-	9%	-	-	10%
Employer									
An energy efficiency company	3%	-	6%	-	-	9%	-	-	10%
Engineer/Architect	3%	-	6%	-	-	9%	-	4%	-
Other	5%	5%	6%	-	13%	-	-	7%	-
Base (n)	***38***	***22****	***16****	***9****	***15****	***11****	***3****	***28****	***10****

*Small base size (<30) interpret results with caution.

Q34. Who provided the technical assistance for these actions?

Appendix Table 6. Industry Trade Associations									
	Total Food Processing	Number of Employees		State				Geography	
		<250	250+	Oregon	Washington	Idaho	Montana	Urban	Rural
Northwest Food Processors Association	22%	13%	50%	25%	31%	20%	-	27%	10%
Restaurant association (general)	2%	3%	-	7%	-	-	-	3%	-
Farm Bureau (general)	1%	1%	-	-	3%	-	-	1%	-
Northwest High Performance Enterprise Consortium	1%	1%	-	4%	-	-	-	1%	-
Dairy association (general)	1%	-	4%	-	-	5%	-	1%	-
Meat association (general)	1%	1%	-	-	3%	-	-	1%	-
Organic association (general)	1%	1%	-	4%	-	-	-	1%	-
Another industry association	16%	19%	8%	14%	14%	10%	31%	14%	21%
None	52%	60%	25%	46%	49%	50%	69%	47%	62%
Don't know	3%	-	13%	-	-	15%	-	1%	7%
Base (n)	***99***	***75***	***24****	***28****	***35***	***20****	***16****	***70***	***29****

*Small base size (<30) interpret results with caution.

Q51. Does your company belong to any of the following industry associations?

Appendix D: Questionnaire

CATEGORY: Move-In from sample

1 Food processing
2 Dairies
3 Irrigators (farmers/growers)
4 Nurseries
5 Small manufacturing business (100 or fewer employees)
6 Medium manufacturing businesses (101 to 250 employees)

_____break_____

COMPANY: Move-In from sample

[OPEN END]

_____break_____

CITY: Move-In from sample

[OPEN END]

_____break_____

STATE: Move-In from sample

[OPEN END]

_____break_____

SIZE. Move-in number of employees from sample

_____break_____

NOTE: INTRODUCTION / SCREENER

NOTE: THE ABBREVIATED NAME FOR NORTHWEST ENERGY EFFICIENCY ALLIANCE IS "NEEA." THIS IS PRONOUNCED "NEE-ah."

NOTE: Gatekeeper Intro:
Hello, I'm _____ calling on behalf of the Northwest Energy Efficiency Alliance. I need to speak to the person responsible for making decisions about energy use for the (RESTORE: [COMPANY NAME]) facility located in (RESTORE: [CITY], [STATE]).

NOTE: Energy Decision-Maker Intro (once energy decision-maker is reached):
Hello, I'm _____ from MSI calling on behalf of the Northwest Energy Efficiency Alliance, also referred to as NEEA. We're conducting a study to better understand how industrial and agricultural facilities in the Northwest region manage their energy use. Your participation will help NEEA design and deliver energy efficiency tools for businesses like yours in our region.

We are only interested in your experiences and opinions, and at no time will I attempt to sell you anything. This survey will take 10 to 15 minutes to complete; and all responses will be kept confidential.

_____break_____

NOTE: SCREENER

SC1. Are you the person who is responsible for making decisions about energy usage for the facility in (RESTORE: [CITY], [STATE])?

1 Yes
2 No {ASK FOR REFERRAL}
REF

_____break_____

SC2. What is your job title?

1 Chief Executive Officer/President
2 Senior Vice President/Vice President
3 Energy Manager
4 Plant Manager
5 Senior Engineer
6 Other [SPECIFY:S]
DK
REF

_____break_____

SC3. How involved are you in energy management for this facility, including any energy efficiency or energy reduction efforts?

1 Very involved
2 Somewhat involved
3 Not very involved, or
4 Not at all involved
DK
REF

{IF SC3=3, 4, DK, REF, TERMINATE: 101}

_____break_____

SC4. How would you describe the facility your business occupies at this location? *(TECHNOTE: Ask as open end, do not read codes. ACCCEPT 1 MENTION)*

1 A food processing facility or plant
2 A dairy
3 A nursery or greenhouse facility
4 An agricultural farm or other type of crop growing operation
5 Another type of manufacturing facility or plant

7 A metal manufacturing facility
8 A fertilizer manufacturing facility
6 Something else [SPECIFY:S]
DK
REF

{IF SC4=6, DK, REF, TERMINATE:102 }

_____break_____

{IF SC4=3 or 4 ASK SC8; OTHERWISE, SKIP TO SC5}

SC8. Do you use irrigation equipment at this facility?

1 Yes
2 No
DK
REF

{IF SC8=2, DK, REF AND SC4=4, TERMINATE:108}

_____break_____

SC5. About how many full and part time employees work at this facility?

[RECORD NUMBER OF EMPLOYEES 1-9998]
9999 10,000 or more
DK
REF

{IF SC4=5 AND SC5=251 THRU 9999, TERMINATE: 103}

{IF SC5=DK, REF, TERMINATE: 104}

_____break_____

SC6. Does your company have more than one facility?

1 Yes
2 No
DK
REF

{IF SC6=DK, REF, TERMINATE:105}

_____break_____

{IF SC6=2 SET SC7=SC5}

SC7. In total, about how many employees does your company currently have across <u>all</u> its sites and locations combined? Your best guess is fine.

[RECORD NUMBER OF EMPLOYEES 1-9998]
9999 10,000 or more
DK

REF

{IF SC4=5 AND SC7=251 THRU 9999, TERMINATE: 106}

{IF SC7=DK, REF, TERMINATE:107}

{IF SC4=5 AND SC7=1 THRU 50 TERMINATE: 109}

_____break_____

CELL. SET CELL

1 {Set if SC4=1} Food processing
2 {Set if SC4=2} Dairies
3 {Set if SC4=4} Irrigators (farmers/growers)
4 {Set if SC4=3} Nurseries
5 {Set if (SC4=5 OR SC4=7 OR SC4=8) AND SC7=1 THRU 100} Small manufacturing business (100 or fewer employees)
6 {Set if (SC4=5 OR SC4=7 OR SC4=8) AND SC7=101 THRU 250} Medium manufacturing businesses (101 to 250 employees)

_____break_____

TOP THREE CONCERNS

Q1. What are your company's top three concerns for this facility? *(Probe for specifics, probe for three mentions)*

[OPEN END:L]

_____break_____

FAMILIARITY WITH ENERGY MANAGEMENT, SEM

Q2. How familiar is this facility with energy efficient operating practices, such as turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc.? Are you… *(Read list)*

1 Very familiar
2 Somewhat familiar
3 Not very familiar
4 Not at all familiar
DK
REF

_____break_____

{IF Q2=1 THRU 3, ASK Q2A; OTHERWISE, SKIP TO Q3}

Q2A. When did this facility first learn about energy efficient operating practices, for example turning equipment or lights off when not in use, maintaining equipment so that it runs efficiently, checking for air leaks, etc.?

1 Less than 1 year ago
2 1 to less than 2 years ago
3 3 to less than 4 years ago
4 More than 4 years ago
DK
REF

_____break_____

Q3. Strategic Energy Management, or S-E-M, is a system of practices that leads to reliable and persistent energy savings. At a minimum, these practices include setting a goal related to energy, dedication of resources by top leadership to achieve the goal, ensuring staff regularly reports progress toward the goal to top management.

How familiar are you with Strategic Energy Management practices? *(READ LIST)*

1 Very familiar
2 Somewhat familiar
3 Not very familiar
4 Not at all familiar
DK
REF

_____break_____

{IF Q3=1 THRU 3, ASK Q3A; OTHERWISE, SKIP TO Q4}

Q3A. How did you first learn about strategic energy management practices?

(ASK AS OPEN END. ACCEPT UP TO 8 MENTIONS. IF A PERSON'S NAME IS MENTIONED, PROBE FOR COMPANY AND ROLE. IF RESPONDENT SAYS, "A UTILITY, A STATE OR FEDERAL AGENCY, A TRADE CONFERENCE," PROBE FOR THE SPECIFIC ONE, AND INPUT IN OTHER SPECIFY.)

1 NEEA (Northwest Energy Efficiency Alliance)
2 BPA (Bonneville Power Authority)
3 ETO (Energy Trust of Oregon)
4 NWFPA (Northwest Food Processors Association)
5 Oregon Association of Nurseries
6 Equipment distributor
7 DOE (U.S. Department of Energy)
8 Other [OTHER: S]
DK
REF

_____break_____

DESIGN: ROW GRID, RANDOMIZE Q4-Q6

For each of the energy management systems I name, please tell me whether you are very familiar, somewhat familiar, not very familiar, or not at all familiar with the program. How familiar are you with…*(READ LIST)*?

1 Very familiar
2 Somewhat familiar
3 Not very familiar
4 Not at all familiar
DK
REF

Q4. Continuous Energy Improvement or C-E-I, through NEEA (Northwest Energy Efficiency Alliance)

Q5. Energy Smart Industrial, through BPA (Bonneville Power Authority) and public utilities

Q6. {SHOW IF STATE=OR} Industrial Energy Improvement, through ETO (Energy Trust of Oregon)

_____break_____

IMPORTANCE OF ENERGY MANAGEMENT PRACTICES

DESIGN: ROW GRID, RANDOMIZE Q7-Q13

For each item I read, please tell me whether it is very important, somewhat important, not very important or not at all important to your company.

How important is…*(READ LIST)*?

1 Very important
2 Somewhat important
3 Not very important
4 Not at all important
DK
REF

Q7. Having specific energy reduction goals

Q8. Having a dedicated "energy manager" or "energy champion" responsible for energy reduction practices

Q8. Reporting energy consumption to top management

Q9. Reporting reduced energy use to top management

Q10. Providing energy management training to staff

Q11. Actively tracking energy usage

Q12. Investing in energy efficient devices and equipment

Q13. Replacing worn out equipment with energy efficient equipment

_____break_____

GOAL SETTING

Q14. Does your company set energy reduction goals for this facility?

1 Yes
2 No
DK
REF

_____break_____

{IF Q14=2 OR DK/REF, ASK Q14A; OTHERWISE, SKIP TO FILTER ABOVE Q15}

Q14A. Will your facility definitely, probably, probably not, or definitely not set energy reduction goals for this facility within the next two years?

1 Definitely will
2 Probably will
3 Probably will not
4 Definitely will not
DK
REF

_____break_____

{IF Q14=1, ASK Q15; OTHERWISE, SKIP TO Q23}

Q15. Are these goals set in terms of <u>an overall reduction in energy usage,</u> or in terms of <u>"energy intensity"</u> which is the amount of energy used per unit of production?

1 Overall reduction in energy usage
2 Reduction in "energy intensity"
DK
REF

_____break_____

Q16. In terms of a percentage reduction per year, what is your facility's specific goal for {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction?

[RECORD NUMBER 1-99] % per year
DK
REF

_____break_____

Q17. Approximately how long ago were these goals set?

1 Less than 1 year ago
2 1 to less than 2 years ago
3 3 to less than 4 years ago
4 More than 4 years ago
DK
REF

_____break_____

Q18. What organizations, if any, influenced the decision to set {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals?

(ASK AS OPEN END. ACCEPT UP TO 8 MENTIONS. IF A PERSON'S NAME IS MENTIONED, PROBE FOR COMPANY AND ROLE. IF RESPONDENT SAYS, "A UTILITY, A STATE OR FEDERAL AGENCY, A TRADE CONFERENCE," PROBE FOR THE SPECIFIC ONE, AND INPUT IN OTHER SPECIFY.)

1 NEEA (Northwest Energy Efficiency Alliance)
2 BPA (Bonneville Power Authority)
3 ETO (Energy Trust of Oregon)
4 NWFPA (Northwest Food Processors Association)
5 Oregon Association of Nurseries
6 Equipment distributor
7 DOE (U.S. Department of Energy)
8 Other [OTHER: S]
DK
REF

_____break_____

SUPPORT FROM COMPANY LEADERSHIP

Q19. Would you describe the level of management support for your facility's {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals as…*(READ LIST)*?

1 Very supportive
2 Somewhat supportive
3 Not very supportive
4 Not at all supportive
DK
REF

_____break_____

{IF Q19=1-4, ASK Q20; OTHERWISE SKIP TO Q21}

Q20. What factors contributed to your of rating management support for your facility's {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals as [RESTORE Q19]. *(Probe for specifics)*

[OPEN END:L]

_____break_____

Q21. Does your facility have a full-time employee dedicated to implementing the facility's {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals?

1 Yes
2 No
DK
REF

_____break_____

Q22. Is someone at your facility is a designated "energy manager" or an "energy champion" who is charged with implementing the {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals?

1 Yes
2 No
DK
REF

_____break_____

{ASK Q22A IF Q14=1 OTHERWISE SKIP TO Q23}

Q22A. Is progress toward achieving the {SHOW IF Q15=1 OR DK/REF: energy} {SHOW IF Q15=2: energy intensity} reduction goals at your facility regularly reported to the top leadership of your company?

1 Yes
2 No
DK
REF

_____break_____

{ASK ALL}

Q23. Does staff at your facility receive training on energy management?

1 Yes
2 No
DK
REF

_____break_____

{IF Q23=1, ASK Q24; OTHERWISE SKIP TO Q25}

Q24. Which of the following topics are typically included in energy management training for staff at your facility? (*READ LIST. ACCEPT UP TO 8 MENTIONS.)*

[RANDOMIZE CODES 1-7]

1 Purchasing efficient equipment
2 Efficient operation of equipment
3 Tracking energy use
4 Setting energy reduction goals
5 Writing an energy management plan
6 Available technical resources (where to go for help)
7 Availability of financial incentives for projects
8 Any others [OTHER: S]
DK
REF

_____break_____

TRACKING OF ENERGY USAGE

Q25. Is energy usage regularly tracked at this facility?

1 Yes
2 No
DK
REF

_____break_____

Q25A. Is energy usage at your facility regularly reported to the top leadership of your company?

1 Yes
2 No
DK
REF

_____break_____

{IF Q25=1 ASK Q26; OTHERWISE SKIP TO Q31}

Q26. Does this facility track the usage of electricity, natural gas, or both? *(ACCEPT UP TO 2 MENTIONS)*

1 Electricity only
2 Natural gas only
3 Both electricity and natural gas
4 Other fuel [OTHER: S]

DK
REF

_____break_____

{IF Q26=1 OR 3, ASK Q27; OTHERWISE SKIP TO FILTER ABOVE Q29}

Q27. Is electricity usage tracked via the bill, the meter, or some other way? *(ACCEPT UP TO 3 MENTIONS)*

1 Bill
2 Meter
3 Some other way [OTHER: S]
DK
REF

_____break_____

Q28. How often is the tracked information for electricity usage typically reviewed?

1 Daily
2 Weekly
3 Monthly
4 Quarterly
5 A few times a year but less than quarterly
6 Less than once a year
7 Never
DK
REF

_____break_____

{IF Q26=2 OR 3, ASK Q29; OTHERWISE SKIP TO Q31}

Q29. Is natural gas usage tracked via the bill, the meter, or some other way? *(ACCEPT UP TO 3 MENTIONS)*

1 Bill
2 Meter
3 Some other way [OTHER: S]
DK
REF

_____break_____

Q30. How often is the tracked information for natural gas usage typically reviewed?

1 Daily
2 Weekly
3 Monthly
4 Quarterly

5 A few times a year but less than quarterly
6 Less than once a year
7 Never
DK
REF

_____break_____

ENERGY MANAGEMENT BEHAVIOR – OPERATIONS AND MAINTENANCE ACTIVITIES

Q31. Now let's turn to your facility's efforts to save energy.
What actions have been taken in the past two years to reduce energy usage at this facility? *(ASK AS OPEN END, ACCEPT 9 MENTIONS)*

[RANDOMIZE CODES 1-8]

1 Leak tag program / leak detection and repair (check for air leaks.)
2 Lighting reduction, turning lights off when not in use
3 Equipment operation schedule or turning equipment off when not in use
4 Equipment settings (decreasing temperature, pressure, motor speed)
5 Removing equipment
6 Equipment Operations and Maintenance
7 Production floor cleaning practices
8 Insulate pipes or tanks
9 Or something else [OTHER: S]
10 No actions taken in the past two years [VOL]
DK
REF

_____break_____

{IF Q31=1-9, ASK Q32; OTHERWISE, SKIP TO Q35}

Q32. Has your facility observed energy savings resulting from any of these actions?

1 Yes
2 No
DK
REF

_____break_____

Q33. Did your facility receive technical assistance for any of these actions?

1 Yes
2 No
DK
REF

_____break_____

{IF Q33=1 ASK Q34, OTHERWISE SKIP TO FILTER ABOVE Q35}

Q34. Who provided the technical assistance for these actions?

(ASK AS OPEN END. ACCEPT UP TO 8 MENTIONS. IF A PERSON'S NAME IS MENTIONED, PROBE FOR COMPANY AND ROLE. IF RESPONDENT SAYS, "A UTILITY, A STATE OR FEDERAL AGENCY, A TRADE CONFERENCE," PROBE FOR THE SPECIFIC ONE, AND INPUT IN OTHER SPECIFY.)

1 NEEA (Northwest Energy Efficiency Alliance)
2 BPA (Bonneville Power Authority)
3 ETO (Energy Trust of Oregon)
4 NWFPA (Northwest Food Processors Association)
5 Oregon Association of Nurseries
6 Equipment distributor
7 DOE (U.S. Department of Energy)
8 Other [OTHER: S]
DK
REF

_____break_____

{IF Q31=10, ASK Q35; OTHERWISE, SKIP TO Q36}

Q35. What were the barriers to implementing actions to reduce energy usage at your facility?
(ASK AS OPEN END. ALLOW UP TO 6 RESPONSES.)

1 Too expensive to implement
2 Expensive to maintain
3 Do not have technical skills to implement
4 Cannot get approval from management
5 Other priorities demand resources
6 Other [OTHER: S]
DK
REF

_____break_____

ENERGY MANAGEMENT BEHAVIOR – CAPITAL IMPROVEMENTS

Q36. Has your facility installed energy efficient equipment during the past two years?

1 Yes
2 No
DK
REF

_____break_____

{IF Q36=1, ASK Q37; OTHERWISE, SKIP TO Q43}

Q37. Is your facility currently in the process of installing energy efficient equipment?

1 Yes
2 No
DK
REF

_____break_____

Q38. What information does your facility rely upon to tell if the equipment that is purchased is energy efficient? *(ASK AS OPEN END. ALLOW UP TO 5 RESPONSES.)*

1 Efficiency rating or label of equipment
2 Equipment dealer said it was efficient
3 Personal experience
4 Met utility rebate requirements
5 Other [OTHER: S]
DK
REF

_____break_____

Q39. Has your facility specifically quantified the amount of energy savings from these projects?

1 Yes
2 No
DK
REF

_____break_____

Q40. What factors motivated your facility to install energy efficient equipment? *(ASK AS OPEN END. ALLOW UP TO 5 RESPONSES.)*

1 Save energy and money
2 The equipment distributor or manufacturer recommended it
3 Recommended in an energy audit
4 Tax incentives or rebates
5 Other [OTHER: S]
DK
REF

_____break_____

Q41. Which of the following financial incentives, if any, did your company receive for installing energy efficient equipment at this facility? *(READ CODES 1 THRU 4. ALLOW UP TO 4 RESPONSES.)*

1 Federal tax credit
2 State tax credit
3 Rebate or incentive from a utility, other organization or institution
4 Or something else [OTHER: S]
5 None [VOL]
DK
REF

_____break_____

{IF Q41=3, ASK Q42; OTHERWISE, SKIP TO Q43}

Q42. Which utility, organization or institution provided the incentive, tax credit, or rebate?
(ASK AS OPEN END. ALLOW UP TO 5 RESPONSES.)

1 BPA (Bonneville Power Authority)
2 ETO (Energy Trust of Oregon)
3 Utility (*Probe for specific utility)*
4 State or Federal Government
5 Other [OTHER: S]
DK
REF

_____break_____

ENERGY EFFICIENT EQUIPMENT

Q43. Does your facility have a specific policy that says you should replace worn out equipment with "high efficiency" equipment – that is, equipment that is more efficient than what is considered standard efficiency or code at the time of purchase?

1 Yes
2 No
DK
REF

_____break_____

Q44. Is your company aware of energy efficient equipment for the type of work done at this facility?

1 Yes
2 No
DK
REF

_____break_____

{IF Q44=1, ASK Q45; OTHERWISE, SKIP TO Q46}

Q45. Has your company been aware of energy efficient equipment for the type of work done at this facility for*…(READ CODES 1 THRU 4)*?

1 Less than 1 year
2 1 to less than 3 years ago
3 3 to less than 4 years ago, or
4 More than 4 years ago
DK
REF

_____break_____

Q46. Do your equipment dealers emphasize energy efficiency when explaining your equipment options*…(READ CODES 1 THRU 3)*?

1 Always
2 Sometimes, or
3 Never
DK
REF

_____break_____

ISO/LEAN

Q47. Is this facility ISO-9000 certified for quality management?

1 Yes
2 No
DK
REF

_____break_____

Q48. Is this facility ISO-14000 certified for environmental management?

1 Yes
2 No
DK
REF

_____break_____

Q49. Does this facility practice Lean manufacturing?

1 Yes
2 No
DK
REF

_____break_____

{IF SC6=1, ASK Q50; OTHERWISE SKIP TO Q51}

Q50. Are decisions regarding implementation of energy management and energy efficiency programs usually made at the individual facility level, or at a corporate or company-wide level?

1 At the facility level
2 At the corporate or company-wide level
DK
REF

_____break_____

INDUSTRY ASSOCIATIONS

Q51. Does your company belong to any of the following industry associations? (*READ CODES 1 THRU 6)*

[RANDOMIZE CODES 1-5]

1 {SHOW IF CELL=1} Northwest Food Processors Association
2 {SHOW IF CELL=4} Oregon Association of Nurseries
3 Northwest High Performance Enterprise Consortium
4 Tech America
5 Manufacturing 21
6 Another industry association [OTHER: S]
7 None
DK
REF

_____break_____

FAMILIARITY WITH NEEA

Q52. How familiar are you with NEEA and its initiatives? Would you say that you are…*(READ CODES 1-4)*?

1 Very familiar
2 Somewhat familiar
3 Not very familiar
4 Not at all familiar
DK

_____break_____

FIRMOGRAPHICS

These last few questions are for classification purposes only.

F1. Is this facility best described as:
(READ CODES 1-2)

1 A free standing building or facility
2 Occupied space that is part of a larger building, industrial park, or office complex
DK
REF

_____break_____

F2. Does your organization own or lease this facility?

1 Own
2 Lease
DK
REF

_____break_____

For this facility, approximately how much is spent annually on:

[RECORD $ AMOUNT: $0 - $100,000]
100001 More than $100,000
DK
REF

F3A. Electricity
F3B. Natural Gas
F3C. Propane / Liquefied Petroleum Gas
F3D. Diesel
F3E. Gasoline
F3F. Coal / Coke

_____break_____

F4. About what proportion of your total operating costs for this facility (not including labor costs) would you say are accounted for by your total energy costs? *(READ CODES 1-5)*

1 Less than 1%
2 1% to less than 5%
3 5% to less than10%
4 10% to less than 20%
5 More than 20%
DK
REF

_____break_____

{If SC6=1, ASK F5; OTHERWISE SKIP TO F8}

F5. In total, how many facilities does your company have? If you are unsure, your best guess is fine.

[RECORD NUMBER OF FACILITIES 1-999]
DK
REF

_____break_____

{IF F5=2 THRU 999 ASK F5A THRU F6D; OTHERWISE SKIP TO F8}

F5A. In what state is your facility headquarters located?

[OPEN END RECORD STATE]

_____break_____

{IF F5=2 THRU 999 ASK F6A THRU F6D; OTHERWISE SKIP TO F8}

How many facilities do you have in…

[RECORD NUMBER OF FACILITIES 0-999]
DK
REF

F6A. Washington
F6B. Oregon
F6C. Idaho
F6D. Montana

_____break_____

How many employees work at the facility(s) in…

[RECORD NUMBER OF EMPLOYEES 0-999]
DK
REF

F7A. {SHOW IF F6A=1 THRU 999} Washington
F7B. {SHOW IF F6B=1 THRU 999} Oregon
F7C. {SHOW IF F6C=1 THRU 999} Idaho
F7D. {SHOW IF F6D=1 THRU 999} Montana

_____break_____

F8. Approximately what were the TOTAL REVENUES for your company in 2010?

(READ CODES 1–7)

1 Under $100,000
2 $100,000 to less than $250,000
3 $250,000 to less than $500,000
4 $500,000 to less than $1 million
5 $1 million to less than $5 million
6 $5 million to less than $10 million
7 $10 million or more
DK
REF

_____break_____

{If SC6=1, ASK F9}

F9. Approximately what percentage of your company's total revenues were accounted for by this facility?

1 Less than 1%
2 1% to less than 5%
3 5% to less than10%
4 10% to less than 20%
5 More than 20%
DK
REF

_____break_____

These are all the questions I have. Thank you for your participation.

Appendix E: Verbatim Responses to Open End Questions[1]

Q1. What are your company's top three concerns for this facility?

Food processing

Sustainability, safety and saving money. /SPE/ Well, we are working toward becoming much more energy efficient and trying to reduce our impact on the environment. That's our number one initiative for 2011 and later. /SPE/ We're trying to be a safe environment. We're still trying to make more improvements towards safety, in terms of equipment and the food supplies we make.

The cost of gas. The cost of fruit.

Production.

Combined accounts by the REA. Getting the rates stabilized. Minimizing electricity and using less heat.

Efficiency, productivity and the profit margin.

Energy efficiency. Safety. Water usage.

One concern is that our power bill is extravagant. It's our cash flow. Second, production, efficiency and quality. Third, we are in the USDA. In our world, we are concerned about sanitation. This is a deli. We are the only plant in Montana where people can bring in their livestock and walk out with beef jerky sticks. Without power and water, we don't have a plant, period.

Affording a better one.

Production, like getting stuff out on time.

Sales, efficiency and the production of a good product.

Saving energy. /WE/ No.

The price of energy. Clean energy.

Energy, because it's a three-phase line, which is the most efficient. /WE/ Changing to more energy-efficient lighting and gas, and an electric water heater. /WE/ No.

Productivity, down time, and expenses.

Staying in business. Maintaining it and keeping it running. Food safety.

Quality products. /SPE/ We do work for farmers and people who hunt. We're not a food manufacturing company. I go the farmer, I bring it here, and I process it. Ways to put them out more quickly. /SPE/ Everything that I set up. It all goes one way with no backtracking. Everything has to have a good flow to it. Keeping our costs down. /SPE/ Equipment costs. The things we run. Maintenance. /WE/ Nothing else.

Health.

Sales. Probably our operating expenses and freight costs.

The roof leaks in the spring. /WE/ No.

Money. /SPE/ We would like to put in three-phase power underground. This would be more efficient. We are getting the power grid put together. It will cost us to do that. By the time we are done, it will cost us $100,000. /WE/ We also want to put in underground wires. I would like to put in solar panels. The buildings are old. This is a small farm. We are trying to find out what options are available. We are looking at a plan. /WE/ I am more than the janitor. /WE/ That covers it.

The fuel prices are going up. The electrical costs. The supply costs are going up as well.

Trying to keep the electric bill down. The water bill. Paying for fuel to deliver it with. /WE/ No.

Energy prices and greenhouse gases. An aging workforce. Dwindling profit margins. /WE/ No.

Finishing our main facility. The appearance and productivity of the facility.

The cost of operation. /WE/ Maintaining product quality. /WE/ Profits.

Water quality. Rodent control and equipment maintenance. /WE/ No.

Sales, of course. /WE/ The cost of supplies, which includes facilities. /WE/ the rest depends on how busy we are.

Quality, the efficiency of our production and keeping costs down.

The price and the availability of natural gas. The electricity rates are increasing. Discharging our waste process water.

The big three are our total costs, finding and retaining qualified people, and meeting customer needs. /WE/ No.

A continuous rise in energy prices. Water. Continuing to automate so we're still productive.

Health and safety. Cost containment and cash flow.

First, product quality. Second, safety. Third, energy use.

Energy costs. We're on a small island in Alaska and our energy is provided by fossil fuels, so we pay a high cost for energy. /WE/ No.

Water usage, the local growing area, and the environmental impact on the ground. /WE/ No.

The building. It's an older building. Having enough business to keep our doors open year-round. Quality and products. /WE/ No.

Sustainability. /WE/ The integrity of the energy supply. /WE/ The costs are important. /WE/ How the energy is derived. /WE/ No.

Maintaining economic competitiveness. /WE/ Food safety and our products. /WE/ Sustainability and the efficient use of resources and raw products. /WE/ No.

Energy efficiency, conservation, and sustainability.

Energy costs. Raw energy costs and labor costs. /SPE/ Our energy cost is the highest cost in this area. Raw energy is the second highest.

Customers would be good. In the first part of January, it's dead. Production and revenue.

We're outgrowing the facility. It is too hot in the summertime, and it is not ventilated well enough.

Our energy overhead. Quality control. The economy and business.

Efficiency. Safety.

Raising our sales. Lowering our costs. Increased profits.

Sanitation and cleanliness for good food manufacturing. Being safe as well. Having that lend to efficiency, which it doesn't do well. /WE/ No.

Profit and regulatory issues.

Decreasing our energy costs. /WE/ Efficiencies in our production. /WE/ Production goals. /WE/ No.

Lighting upgrades. /WE/ Packaging upgrades. /WE/ No.

The age of the building.

Well, energy. /WE/ Government regulation. /SPE/ No more telling us how we can run our facility. It is more like the government is getting in the way. /WE/ The potential loss of customers because of the economy. I don't know how many we'll lose.

Gas savings. /WE/ The biggest thing is the gas savings. Everything is on when we're open. We installed the hot water heater.

Keeping the doors open. /WE/ No.

Making enough to pay the bills. /WE/ No.

Productivity, safety and sustainability.

The rising cost of food, energy and healthcare.

New business, energy efficiency and sustainability. Sewer costs.

First, to keep the doors open and make money. Second, keeping our equipment operating. Third, customer service. /WE/ No.

Waste water, water usage and electricity usage.

Customer service. /WE/ Resources for raw materials. /WE/ Keeping employees happy. /WE/ No.

Electricity and propane usage and our carbon footprint. /SPE/ General usage rates and reducing them.

Government regulations. /WE/ Nothing else.

Sustainability, profitability and accurate forecast.

Political uncertainty. Rising costs.

Staying in business is a top concern right now given the way things are right now. Making sure everything is done as efficiently as possible in terms of both the produce and the employees. /WE/ No.

The cost per ton. That's the main one. Safety. Not necessarily in that order. Throughput. /SPE/ Just getting the product through the plant. /WE/ No.

Keeping the doors open. Finding the product needed. /WE/ Those are the only two.

Space. We do not have enough space. /WE/ Consolidating into a larger facility.

Building maintenance. Lighting. /WE/ No.

Expansion. I don't know. /WE/ No.

Energy costs.

Food safety. /WE/ A positive cash flow. Economic sales. /WE/ Employee safety. /WE/ No.

Operating efficiently as best as we can. /WE/ Controlling the costs. /WE/ No.

Lighting, heating, and cooling in the summertime.

Energy costs. /WE/ Our customer base. /WE/ Advertising.

Energy costs, crop costs and trying to keep our labor costs down.

Goal-setting regarding energy reduction. We have a CEI program. Also, finding projects and then making everyone aware. /WE/ Staying within our key indicators. /WE/ Nothing.

I would like to sell it and get it out of here. /WE/ No.

Costs, product availability, and our employees. /SPE/ It is not easy to find people to work. /WE/ No.

Legislation issues relating to sugar beets. /WE/ The cost of energy such as coal. /WE/ Getting enough rainfall during the irrigation season. /WE/ No.

Energy costs. /WE/ Energy efficiency. /WE/ Food costs.

Maintenance, cleanliness and energy efficiency.

Keeping it running 24/7, Cutting energy costs and putting out good quality products

Make saleable products. Costs. Saving energy.

Labor costs. Volume of production and waste water.

Energy costs. The cost per pound. The cost per unit. Getting the best efficiency we can. /ANY/ It is really about the cost and efficiency. The supply. Maybe not having the electricity supply interrupted.

Safety. Energy efficiency. Maintaining preventative maintenance.

Environmental compliance. Fisheries management.

Outgrowing this facility. Continued or better sales. The cost of having to get a bigger place.

Safe drinking water. A safe working environment. An enjoyable place to work.

Beverage Manufacturers

The expense. /SPE/ It costs so much as the weather changes. Electricity. /SPE/ Just that it is very expensive. /WE/ Structural things in case of extreme weather.

Sales. /WE/ Reducing the costs.

Production, customer service, and whether the workers are happy.

Making money. Making a good product. Keeping our employees safe and happy.

Sustainability. Annual revenue. /WE/ No.

Sales, growth, and the condition of the market.

Cost efficiencies, product qualities and employee retention.

Revenue, expenses and energy conservation.

Paying our bank debts. Producing the best product possible. Marketing our products.

Making a quality beer product. /WE/ It takes a lot to make a profit. We're actually doing quite well. Nothing else comes to mind.

Safety, productivity and maintenance.

The prices for energy are too high. /WE/ We have a problem with squirrels disrupting our electricity, so we lose power. /WE/ Our power supply is not always reliable. /WE/ No.

The ease of access for customers. Location. A facility that is able to house what we do.

Visibility to the customer. /WE/ Efficient operations. /WE/ Stability.

The quality of the power. /WE/ That's really the main one.

Well, making my mortgage payment. Keeping up the sales, I suppose. /WE/ No.

The power bills are high. We have pumps during the high zone. We have installed sensor lighting in our warehouses and a methane digester. When we have our power in the high usage category, we have a compressor that uses a lot of energy. I would like a source of renewable energy. We have looked at solar panels. There is no return investment. We do not want government involvement. We have put in bids for support. We have not been accepted. We use a lot of power. /WE/ That is all.

Producing a quality product. /WE/ Cleanliness and safety.

Producing an excellent product. Giving excellent customer service and being very streamlined or very efficient.

I don't think we have any concerns. Everything is working just fine.

Space for growing bigger. Maintenance. /WE/ No.

Q20. What factors contributed to your rating of management support for your facility's energy/energy intensity reduction goals as supportive/not supportive.

Food processing

Number one is the huge cost of energy. We're convinced that it's not only going to go higher, but much higher.
Mgmt support goals: Very supportive

Setting my own goals. Look at the bottom line.
Mgmt support goals: Very supportive

Because they want to save money. /WE/ No.
Mgmt support goals: Very supportive

Because of the amount of money I was paying for energy. /WE/ No.
Mgmt support goals: Very supportive

Everything I can turn off, I do. /WE/ No.
Mgmt support goals: Very supportive

We have top-down support from the president and the mid-level management all through our business. /WE/ No.
Mgmt support goals: Very supportive

We do not want a high power bill. /WE/ No.
Mgmt support goals: Very supportive

We are a small business and everyone is in the same place.
Mgmt support goals: Very supportive

Well, the directive came from our corporate office. We have a company-wide team and an energy-steering committee that looks at and sets goals, and they have ways for us to meet those goals. /WE/ No.
Mgmt support goals: Very supportive

Continual rises in the cost. Being sustainable. Trying to reduce our footprint.
Mgmt support goals: Very supportive

The level of downward direction. We have been given financial support. We have energy-efficient machinery. We report our weekly goals. We have monthly meetings with our management and yearly conferences. /WE/ No.
Mgmt support goals: Very supportive

We're all shooting for the same goal. /WE/ No.

Mgmt support goals: Very supportive

It probably just comes around the capital dollars. If we spend money on reduction, that is support. Having a project this year to reduce our energy. /SPE/ No, that's a big thing. It is easy to talk about but we have to do something with it. Using that capital program to do that is a sign of a show of support.
Mgmt support goals: Very supportive

The price of power, the economy, and the need to cut things down.
Mgmt support goals: Very supportive

Staff services.
Mgmt support goals: Very supportive

The capital investments and the overall focus on our energy savings goals. /WE/ Sustainability and improvement throughout the year. These are all very important. /WE/ No.
Mgmt support goals: Very supportive

The management team is very on board with saving energy and maintaining the green status to the best of our ability. /SPE/ Financial backing of energy-efficient equipment and so forth.
Mgmt support goals: Very supportive

It's me.
Mgmt support goals: Very supportive

The hiring of the sustainability manager at the corporate level. /WE/ No.
Mgmt support goals: Very supportive

They are always telling me to reduce our energy usage. /WE/ No.
Mgmt support goals: Very supportive

They are on my butt to get it done. They allowed me to benchmark and get my part done. /WE/ No.
Mgmt support goals: Very supportive

To reduce our costs and production.
Mgmt support goals: Very supportive

The need to reduce costs so we could be more competitive. /WE/ No.
Mgmt support goals: Very supportive

Money.
Mgmt support goals: Very supportive

We mainly get to all of our tenants at meetings. Involvement with projects and attendance training sessions. /WE/ No.
Mgmt support goals: Very supportive

A reduction in coal usage. /WE/ No.
Mgmt support goals: Very supportive

My sister and I are the owners and we are concerned about the environment. /WE/ No.
Mgmt support goals: Very supportive

Top management signed the Save Energy Now program. /WE/ Monthly phone calls with top management with reports on energy efficiency. /WE/ No.
Mgmt support goals: Very supportive

I would say it's the fact that we have invested a lot of money in a lot of things to conserve energy and we have taken advantage of any rebates that we could. One of the key performance indicators is how the managers at each facility handle things toward their energy goal. /WE/ No.
Mgmt support goals: Very supportive

Cost-competitive issues. Also, buyer sustainability and expectations. /WE/ No.
Mgmt support goals: Very supportive

Looking at our options and grants. /WE/ No.
Mgmt support goals: Somewhat supportive

How much time I have. Everything here is very well maintained, and most of my equipment is new and energy-efficient. /WE/ No. /SPE/ Two new energy-efficient water heaters. /WE/ No.
Mgmt support goals: Somewhat supportive

I would say it is based on resource allocation. /WE/ It is based on the perceived economic competitiveness of resource requirements to meet those goals. /WE/ Putting our money on the highest opportunities first. Money equals resources. /SPE/ Too much competition for a share of the resources. /WE/ No.
Mgmt support goals: Somewhat supportive

Sometimes production will outweigh energy when they need to get the production out, and that does factor in.
Mgmt support goals: Somewhat supportive

Well, they didn't think they needed energy conservation until customers wanted to know if we were going green. /WE/ No. /SPE/ Conserving energy. /WE/ No.
Mgmt support goals: Somewhat supportive

Beverage Manufacturers

I would just say it was the monthly cost.
Mgmt support goals: Very supportive

We tried to maintain the energy costs down by turning off equipment whenever possible.
Mgmt support goals: Very supportive

Well, they basically demand it.
Mgmt support goals: Very supportive

Just the greenhouse gas initiative that we have. /WE/ No.
Mgmt support goals: Very supportive

I don't understand the factors. We just have discussions about how to reduce energy, such as not having lights on when they are not in use. We have several rooms that are connected to the same switch. We are trying to remedy that by separating the rooms. We are looking into government support systems that will help us pay for it. /WE/ No.
Mgmt support goals: Very supportive

[1] Market Strategies interviewers probe with the question "What else" which they shorten to "WE", and "Can you be more specific?" which they shorten to "SPE" in the verbatim responses.